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VA Linux Bows Out Of Hardware Market 5
UDDI Takes Shape With Version 2.0 5
Starbase Updates StarTeam, CaliberRM 6
Secant Claims First Platform Built on MDA 8
New Web Services UI Spec Based on XSLT 8
ParaSoft's CodeWizard Improves on, Adds New Rules 10
Excelsior's Java Compiler Optimizes Code For Windows 12
General Magic Voice-Enables J2EE Applications Seamlessly 13
SmartCode RDF Kit Gets Code-Generation Engine ...13
Curl Updates Surge Development Environment ..14
LinuxWorld Features First-Ever Worldwide Developer Conference 16
ClientSoft Provides Host Access for Web Services ..22
Red Hat Releases GNUPro 2001 27
Applied Microsystems Combines NetROM, CodeTest for VxWorks 27
Web Database Objects 1.0 Links Oracle, Java 30

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BORLAND EMBRACES ASP MODEL

Hosted developer collaboration tools to be aimed at programmers, nontechnical staff

BY EDWARD J. CORREIA

It's becoming more than just a software tools company: Borland Software Corp. next month will launch a set of Internet-hosted collaboration tools and services that the company said are designed to unite all manner of developer involved in today's development projects, including highly skilled programmers, Web designers and nontechnical staff.

Developers are no longer collaborating just with developers, says Borland's Riga.

The company demonstrated early versions of the TeamSource Developer Services at its annual developers' conference in Long Beach, Calif., last month, and said it will complete the phased rollout by year's end. Borland revealed its intention to offer ASP services last fall when it acquired Web services developer Bedouin Inc., and formed its Borland Developer Services business unit. Pricing for the services has not been finalized.

Ben Riga, director of marketing for the unit, said the services were conceived by CEO Dale Fuller as a means to address the evolution of development, which now commonly involves large groups of nondevelopers. "As developers move to building

▸ continued on page 18

OMG Plans Major Changes For UML 2.0

Extensions seek to align language more closely with other OMG specs

BY DOUGLAS FINLAY

The Unified Modeling Language is getting set for major enhancement. Object Management Group Inc., which owns the specification, has put out three Requests for Proposals, and according to Chris Kobryn, chairman of its Analysis and Design Task Force, is expecting responses later this month from more than 35 companies.

Three areas in which the OMG published RFPs were infrastructure, superstructure and semantics.

Architectural defects made the language hard to understand, says Rational's Rumbaugh.

According to Rational Software Corp.'s Jim Rumbaugh, one of the original inventors of UML, major improvements were in order from the current 1.4 specification because "while we knew of previous defects in architectural structures that made the language hard to understand, for example, or overgeneralization of the semantics, it was unwise to correct all of them at once." He added that UML 2.0 would extend its language to encompass features that were not thought of originally, such as improving the architectural structure to align with other OMG (www.omg.org) modeling standards, such as the Model Driven Architecture.

The infrastructure RFP is focused on improving the UML's architectural alignment with other OMG modeling standards, such as the Meta Object Facility and XML Metadata Interchange; restruc-

▸ continued on page 31

Draft of SOAP 1.2 Specification Goes Public

Abstract model also included for protocol stack definition

BY DOUGLAS FINLAY

The World Wide Web Consortium released a public draft of SOAP version 1.2, which improves on version 1.1 by removing ambiguities on how messages are processed, by providing more feedback in error messaging, by updating the XML Schema and by adding clarification to namespaces.

"SOAP 1.2 received significant review from a public committee comprising 44 organizations," remarked Janet Daly, W3C spokeswoman, emphasizing SOAP's beginnings as a specification developed by Microsoft Corp. David Fallside, chairman of the W3C's XML Protocol Working Group, added that with the 1.2 iteration the specification in fact was now completely out of the vendor domain and into the public domain.

Fallside said SOAP 1.2 removes any ambiguity on how messages are processed. "In version 1.1 there was never an assumption of an order to headers, so that as they came in if there was an error in one, it might not be processed, or more importantly, be interpreted differently by each developer and processed according to that interpretation," he said. But version 1.2 provides strong recommendations on how to handle explicit error messages, he said, providing specific information to developers on how to handle the error, and eliminating any chance for ambiguity. A new optional feedback mechanism also ensures there is additional information available in the event of an error message.

SOAP 1.2 also includes the final W3C XML Schema release. "Version 1.1 used an older version of the recommendation; this one reflects the latest," Fallside said.

Also new to 1.2 are improvements to the namespace. "1.2 gives way to better namespacing of elements, such as titles of books and of people," he said. "If there's a tag in the XML document that says 'title,' does it refer to the title of a book or of a person?" Fallside questioned. By incorporating the W3C's standard method of namespacing, the distinction is eliminated because it is more adequately defined, he said.

Mark Hale, standards architect at Interwoven Inc., said

▸ continued on page 31

RADISYS ACQUIRES MICROWARE

BY EDWARD J. CORREIA

If ever a company were ripe for a takeover, it was Microware Systems Corp. The company, which recently had been saddled with financial difficulties and a falling stock price, will be acquired by embedded systems developer Radisys Corp. for $13.3 million in cash. The acquisition is expected to be completed in September.

In addition to its OS-9 embedded real-time operating system, Microware's crown jewels include microcode for the IXP1200, Intel's high-end network processors that are popular in many parts of the embedded sector.

According to Ken Kaplan, Microware's president and CEO,

▸ continued on page 28

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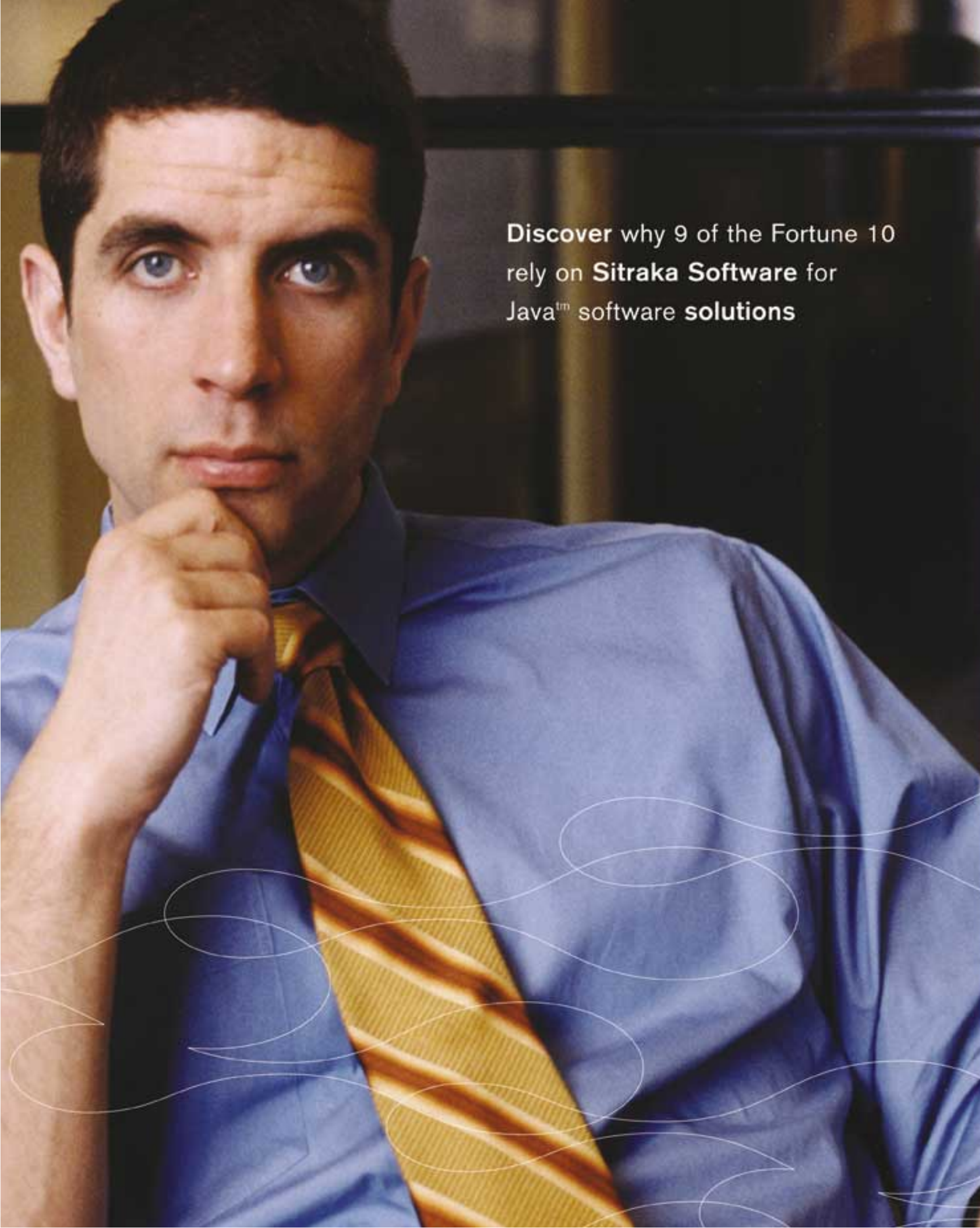

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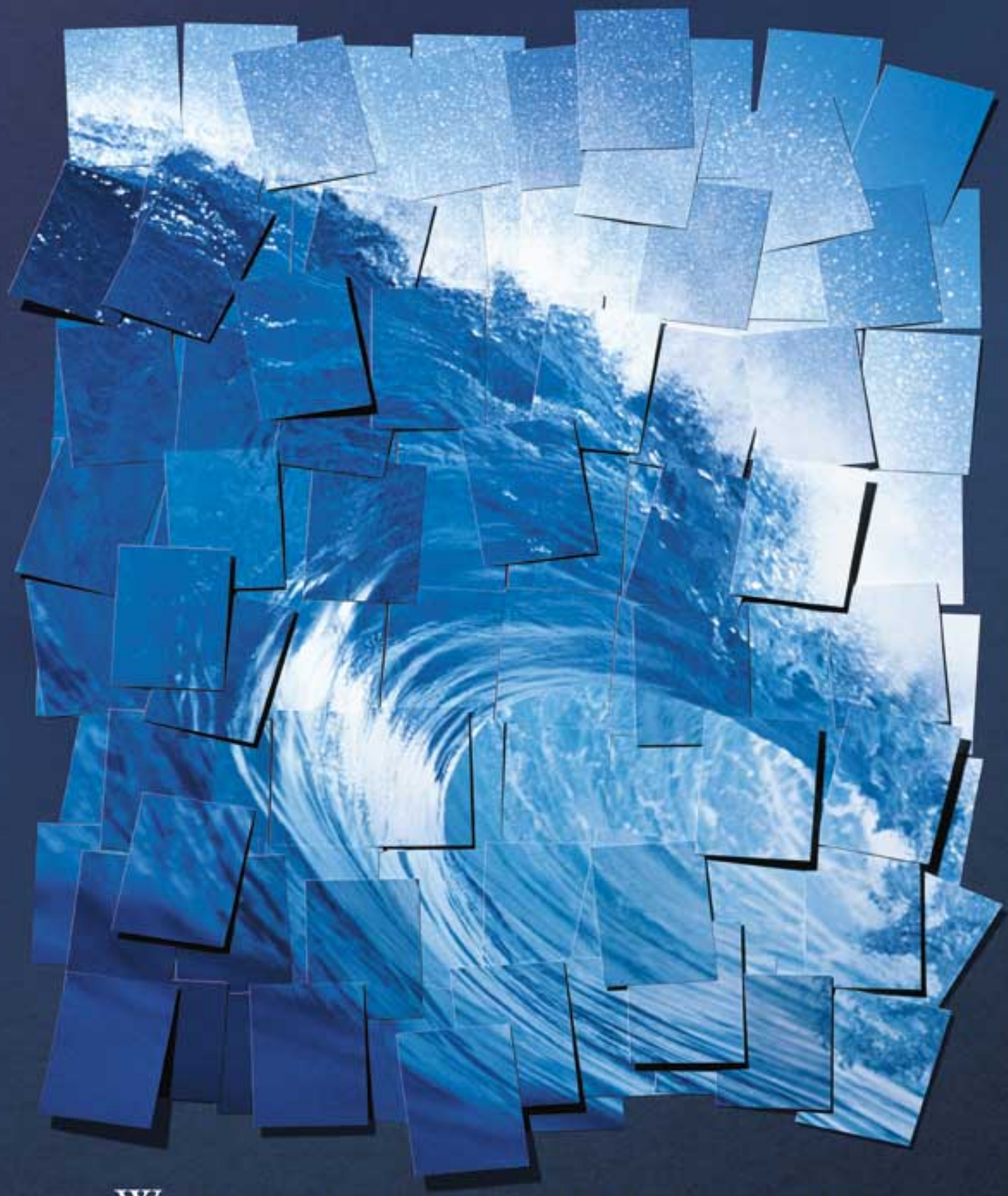

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SOFTWARE

VA Linux Bows Out of Hardware Market

Cuts jobs, spending while starting over as software company with SourceForge OnSite

BY CHRISTINA M. PURPI

Due to an excessive amount of cash burn, the slowed high-tech economy and the collapse of the dot-com market, one-time Wall Street high-flier VA Linux Systems Inc. has taken a dramatic 180-degree turn as it struggles to remain alive. In an announcement made in late June, VA Linux has officially exited the hardware industry and has outlined a new strategy focusing on application software.

"We weren't making any money," admitted the company's CEO, Larry Augustin, who said that its biggest customers were the dot-coms. "[Dot-coms] already had the hardware, and we couldn't compete with other companies who were cutting prices."

VA Linux's future looks bleak, according to analysts. "When they started out, the economy was good and the dot-coms were in business," explained Bill Claybrook, research director for Linux and open-source software at Aberdeen Group. "[Dot-coms] didn't have hardware affiliations, so they went to VA Linux. Once the market downturned and Dell, Compaq and IBM realized there was a market, they simply couldn't compete."

According to Prakesh Patel, senior research analyst for infrastructure software at WR Hambrecht & Co., 73 percent of VA Linux's business was selling hardware. Only 16 percent of the company's revenue came from software sales, with another 10 percent coming from support services. Augustin said continuing in the hardware business "didn't make any sense; it wasn't a profitable business. We wanted to go after a space we already knew."

In trying to get back on its feet, VA Linux (www.valinux.com) is now focusing all its efforts into SourceForge OnSite. "We feel the software market will lead us on a reasonable path to profitability," said Augustin. OnSite is a paid-subscription service, targeted at business customers, that offers the same collaboration tools as VA Linux's SourceForge.net site, which is a popular free-to-use collaboration service offered to the open-source community. Companies are charged $50,000 for providing as many as 500 developers access to the OnSite service.

'We weren't making any money,' says VA Linux's Augustin.

Analysts are less optimistic. According to Patel, "What they offer [SourceForge] is not very unique." Patel went on to explain that VA Linux's in-house services and consulting currently do not generate much revenue.

With the elimination of its hardware business, VA Linux will eliminate 35 percent of its 436 employees, with the majority of the layoffs to come within the current quarter. This comes only months after 25 percent of the staff was cut in February.

Orders for hardware are no longer being accepted, said Augustin, and all deliveries were expected to be completed by July 28, with standard warranty service and hardware technical support provided through January 28, 2002.

VA Linux expects its revenue to significantly decline as a result of its departure from the hardware sector. "Our goal is to bring down the cash burn and to cut spending costs," said Augustin. Revenue from the last fiscal year was approximately $120 million, according to Claybrook, and is expected to fall to a quarter of that figure by next year. Last year, VA Linux reported a loss of $89.7 million dollars, and a pro forma loss-per-share of $2.802.

VA Linux's major competitor is Collab.net Inc., whose SourceCast is similar to SourceForge OnSite. "[VA Linux is] going to have to completely start over with a new company, a new focus and new partnerships," said Claybrook. "The [collaborative software development and consulting] market is not a huge one; it's a growing one whose revenues will eventually reach $100 million." ▮

CrossWeave Creates Composite Applications

Runtime, tools turn assets into apps that reflect business models

BY DAVID RUBINSTEIN

Claiming that traditional application integration doesn't truly mirror how businesses work, and also cannot take full advantage of the broad range of applications available on the Internet, start-up company CrossWeave Inc. has released its first products: a set of tools and runtime environment for building and deploying composite applications.

"Most corporate executives see their businesses as fluid, interactive and dynamic," said CrossWeave (www.crossweave.com) CTO Sean Fitts. "But their systems, which were static databases and mainframes, pulled them in the opposite direction. We want to help them leverage the assets available to them."

Entering a crowded, mature application integration market dominated by the likes of Tibco, Vitria and WebMethods, CrossWeave will face some challenges. "There are so many different ways of looking at integration, it will be hard for them to distinguish themselves in the marketplace," said Meta Group analyst Hollis Bischoff.

A key feature of the CrossWeave Internet Application Integration Platform is an application proxy, which Fitts believes is unique in the industry, that acts as a mediator between the runtime and Web services and applications, he explained. "You're sort of creating your own corporate API over existing assets," he said. "This platform allows customers to decide the APIs, whether ad hoc XML APIs or Web services." The proxy allows integration of any Web application into the composite without requiring changes to the underlying app, he explained.

CrossWeave seeks to help businesses take advantage of existing assets, business rules and processes in a programming model that Fitts said is highly scalable due to the loose coupling of the services and assets available internally and on the Internet.

"It's a natural extension of traditional EAI," said Bischoff. "People want to integrate the business logic and let the data reside separately."

The Workbench tool set helps companies create reusable application modules generated as XML files for access in XSLT and Java script "to get the application to do what you want it to do," Fitts said. The runtime controls such things as user and session management, logging and monitoring, Web transactions and business object mapping.

CrossWeave is certified on Solaris and Windows 2000, Fitts said, and runs on BEA's WebLogic application server. CrossWeave is licensed at $75,000 per CPU for a two-year subscription with technical support included. ▮

UDDI Takes Shape With Version 2.0

BY DOUGLAS FINLAY

The Universal Description, Discovery and Integration (UDDI) registry specification eased closer toward a review date with a standards organization with the release of the version 2.0 specification at the www.uddi.org Web site.

"There are four major improvements to UDDI version 2.0," remarked Scott Cosby, IBM Corp.'s spokesman for the UDDI initiative. The first improvement, he said, can describe complex organizations, such as multinationals with headquarters in one country and corporate entities in others. "Companies with divisions around the world may have different contact information, and might reflect different cultural ways of doing business. The way they process invoices and interact on a contractual basis will be different depending upon the country," he explained. He said associations could now be created in a parent-child or peer-to-peer fashion, even if they represent the same organization.

Cosby said the second area of improvement bolsters international support, specifically in allowing multiple languages for businesses and services. "On the European continent, you may have services and want to describe them in a particular language appropriate to your customer set," he said. Duplicate entries within the registry are no longer required for this feature, he maintained.

Adding specific taxonomies that drill deeper into business categories and services are a third improvement in version 2.0, said Cosby, so one could tap into the chemical industry manufacturers' categorizations of different chemical types or services around them, for example. "A small industry consortium could actually build their own taxonomy to classify their own custom business categories," he continued. New taxonomies will not be built into the specification, he said, but will be supported as an extension instead.

Cosby said version 2.0 would offer richer searching options, allowing more complex queries to get more information from the registry, using more *and*'s and *or*'s, for instance. He said version 2.0 could now process a complex question such as, "Find a business in a specific geographical area that supports this language and can interact using this security protocol." He said that in the initial UDDI release, the question would have had to have been broken down into three separate queries.

Documentation for version 2.0 is available at the UDDI Web site, and Cosby said that the actual business registry implementation will be available by August. ▮

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News Briefs

COMPANIES

Cape Clear Software Inc. now supports IBM Corp.'s WebSphere Application Server within its CapeConnect Web services deployment platform . . . Databeacon 5.1, an Internet-based data analysis and reporting package from **Databeacon Inc.** (formerly InterNetivity Inc.), now runs on Linux in addition to Unix and Windows . . . **CrossWorlds Software Inc.** now supports Enterprise JavaBeans, which allows developers using CrossWorlds' integration suite to execute business-process components as EJBs, accessible from any EJB-compliant application server . . . **Sonic Software Inc.**'s Sonic MQ Java Message Service middleware has achieved compatibility with Sun Microsystems Inc.'s J2EE specification. Sonic MQ becomes the first JMS product written entirely in Java to pass the compatibility test suite.

PRODUCTS

FMS Inc.'s **Total SQL Analyzer** is a new performance analyzer for Microsoft Corp.'s SQL Server that helps developers build, deploy and update SQL Server applications more quickly by providing in-depth analysis of potential issues and performance problems with server configurations and object schema. Available immediately, pricing is $499 for a single license, $1,499 for a five-license package, and $6,999 for 25 licenses . . . Pervasive Software Inc. has made its **SQL 2000i** multiplatform database engine available for Linux, and provides backward compatibility with existing BTrieve API-based applications on Linux, Windows NT and NetWare . . . Command Prompt Inc.'s new **DocParse 0.2.6** converts HTML documents into a DocBook XML/SGML document, which can then be converted to XHTML, HTML or RTF. Available for $x86$ Linux, it is being readied for YellowDog Linux and Mac OS X . . . Wasabi Systems Inc. has ported the NetBSD operating system to Advanced Micro Devices Inc.'s $x86$-64 64-bit microprocessors. In addition, Wasabi has introduced **NetBSD 1.5.1**, which now supports a variety of network interfaces, sound cards and disk controllers . . . TGS Inc.'s release of **Open Inventor 3.0** object-oriented developer toolkit for 3D graphics features major enhancements, including multithreading; rendering on a remote machine; a big image renderer that renders to an off-screen buffer for printing; optimization for very large data sets; and a new texture node that automatically manages systems memory used to hold texture images . . . Compoze Software Inc.'s **Harmony Component Suite 2.0,** a collection of EJB components for communications, has added portlets, which are components enabling developers to add specific scalable and reusable functions to portals; and a Webmail package that offers workflow and validation components for sending and receiving e-mail from any SMTP, IMAP or POP-compliant system. 2.0 also supports additional application servers such as JBoss, iPlanet and Total-e-Server, and databases such as DB2 and Informix . . . WebGain Inc. has released **Application Composer 1.5**, a component assembly utility that includes a new GUI that the company claims makes the assembly of Java components more intuitive . . . Etnus LLC has updated its debugger to provide developers with control over applications down to individual threads, according to the company. **TotalView 5** also provides graphical views of Message Passing Interface and OpenMP queues for parallel-processing environments, and can help debug complex objects in C++ and FORTRAN 90. TotalView 5 is currently available for Linux and Unix.

PEOPLE

ANT Ltd. has named **Stephen Chalkley** as engineering development manager . . . Embedded Java developer Insignia Solutions Inc. has promoted **Mark McMillan** to president and COO. He was vice president of sales for the Internet division of Phoenix Technologies before joining Insignia in November 1999 . . . **George Paolini**, Sun Microsystems Inc.'s former vice president of technology evangelism software marketing, has joined Zaplet Inc. as chief marketing officer. . . Serena Software Inc. has named **L. Evan Ellis Jr.**

PAOLINI

▸ continued on page 8

Starbase Updates StarTeam, CaliberRM

BY ALAN ZEICHICK

Continuing to reinvent itself as a supplier of end-to-end developer collaboration solutions, Starbase Corp. last month upgraded its StarTeam, StarFlow and CaliberRM applications, and also released new plug-ins to the StarTeam and StarFlow applications.

The biggest changes are to StarTeam, the company's configuration management system. The new version, 5.1, can replicate data between multiple StarTeam servers, as well as use IP Multicast to send project changes out to developers, explained Steve Reynolds, Starbase's (www.starbase.com) vice president of strategic support.

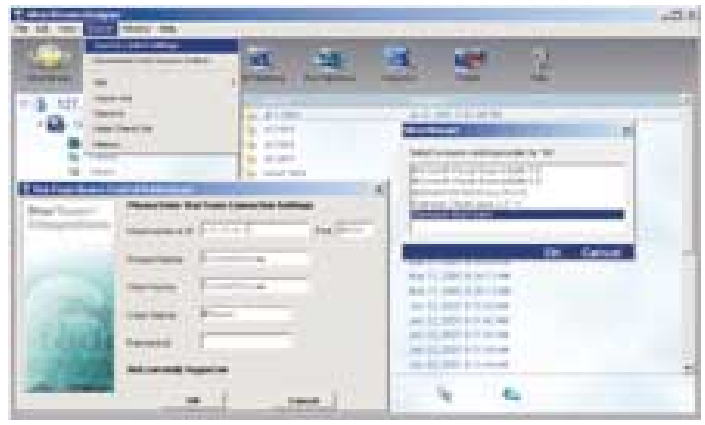
Normally, said Reynolds, users access a single StarTeam server over TCP/IP, using either a local LAN connection or a link over the Internet. The new Replication Manager, included in StarTeam 5.1, lets administrators configure a bidirectional synchronization between multiple StarTeam servers, typically located at different geographic locations, so that developers can access a local server rather than working across the Internet. The benefits are not only improved performance for the individual programmer, but also improved scalability because each server is handling few users, he said, adding that the use of replication can also reduce bandwidth requirements.

Similarly, the configuration-management server can now use multicast to distribute configuration changes simultaneously to all developers who are using the system, rather than establishing a point-to-point connection between the server and each client, said Reynolds. Combining this new feature, which Starbase calls MPX, with the replication manager allows StarTeam to scale by reducing each server's workload, as well as balancing the load between multiple servers, he added.

Also new to StarTeam 5.1 is what Reynolds described as broader support for Merant's PVCS Version Manager. "A lot of people have created thousands of labels and thousands of branches in PVCS," he said, adding that as projects grow, some labels and branches may be broken. "We can now import them into the StarTeam registry, find all the broken stuff and clean it up."

The new version of StarTeam replaces version 4.2. According to Lydia Patterson, vice president of corporate marketing, version 5.0 was a Unix release equivalent to StarTeam 4.2 on Windows. The 5.1 release is for both Unix and Windows, she said, adding that a Linux version is under development.

A new optional add-in provides a "requirements" tab as a new data format with the StarTeam database and user interface; it also can act as a unidirectional bridge between Starbase's CaliberRM requirements manager and StarTeam, so that business analysts can create project requirements using CaliberRM. Developers can then work to those requirements using StarTeam. "It truly allows requirements-based development," he said. Pricing for this add-in was not available at press time.



StarTeam can now be integrated into the SilverStream Designer interface.

Another option is the new StarTeam SilverStream Server Integration component, which allows StarTeam to deploy directly to SilverStream Software Inc.'s J2EE-compliant application server, and lets SilverStream's Designer development tools access the StarTeam project repository. The component works with StarTeam 4.2 or later, and is priced at $399 per developer seat.

Starbase also updated its StarSync application, which links StarTeam to the company's Expressroom XML-based content-management environment. StarSync, said Reynolds, can automate the process of publishing updated code, such as new servlets, from the StarTeam software development system to the Expressroom staging and deployment servers.

Separately, Starbase has updated its StarFlow workflow server. The new version, currently unnamed and without pricing at press time, has improved integration with Microsoft's Exchange groupware server and Outlook client, according to Reynolds. With the new version, administrators can program Exchange and Outlook to provide user access to StarTeam's custom data fields. Nontechnical users can then read and write to the StarTeam database by using messages in Outlook. "Nondevelopers can do everything through Outlook, while developers use StarTeam," said Reynolds.

An add-in to StarFlow, also not yet priced, allows the application's workflow diagrams to be exported in XML format, so that they can be imported into StarTeam, or into other applications, said Reynolds. "It adds workflow design capability to everything," he noted.

Earlier in July, Starbase released CaliberRM Professional, a high-end version of the CaliberRM requirements application it purchased along with Technology Builder Inc. last February. TBI had announced CaliberRM Professional in December 2000, and planned to ship it in January, but Starbase wanted to hold back the product's release to add new features, said Patterson.

The main difference between the regular and professional versions of CaliberRM, said Patter-

▸ continued on page 22

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Secant Claims First Platform Built on MDA

Object model called key element in life-sciences solution as company eyes other industries

BY DAVID RUBINSTEIN

Planting its flag as first to the mountaintop of the Object Management Group's Model Driven Architecture (MDA), Secant Technologies Inc. is preparing to release an application development and deployment platform in the life-sciences field that the company says could eventually reach into other markets.

Secant, a lower-tier Java-compliant application server vendor battling in a crowded space dominated by BEA Systems Inc., has found a vertical niche in which to grow and an architecture upon which to root it, according to Secant CEO John Pompeii.

"MDA is now to the point where it's getting into the field," he said. "The predominant piece of intellectual property is the object model. We're taking a model-driven approach and putting it into a solution and delivering it to end customers. This is a major validation of MDA in an important space."

Secant is working with Incyte Genomics Inc. to market and develop Incyte's Genomics Knowledge Platform (GKP), the result of a nearly two-year project that allows researchers to tie together a large array of data types, algorithms and applications for mining, analysis and validation, Pompeii said. Although life sciences is the first vertical market in which Secant (www.secant.com) is targeting the GKP, combining advances in high-performance computing and scientific research, Pompeii said 80 percent of the platform itself is not specific to genetic research and could lend itself to any process-oriented research project.

The GKP is based on a specific biology object model created with the input from Incyte's pool of researchers, scientists and physicians, allowing any life-sciences worker to utilize the abstraction of that knowledge. However, according to one industry analyst, it is the very specific object model this platform requires that will be the challenge Secant faces when trying to move into other vertical markets.

Industry-specific object models could make the platform portable.

"In Incyte, they had a partner with a vested interest to develop this object model," said Gordon Bennett, senior research analyst with Aberdeen Group. "That's why it's hard to replicate in other industries. The challenge will be to find partners in other vertical markets" such as energy, transportation management or finance, he added.

Pompeii described the GKP as a knowledge management platform with an emphasis on data discovery and analysis, with an API and an object model for incorporating new applications and algorithms as projects evolve. The GKP includes Secant's J2EE-compliant application server, its ModelMethods software development tools, SmartFarm workload management technology for high-performance and parallel computing, plus workflow technology linked to the data enter, Pompeii said. Project management folders and collaboration tools also are built into the platform, which is expected to be available for purchase late in the fall, with XML and Web services capabilities added in the first half of 2002, he added.

The intellectual property of the GKP—the biology object model—remains with Incyte (www.incyte.com), Pompeii said, but Secant holds an exclusive license and owns everything built on top of the platform. The partnership is structured in such a way as to allow Secant to take the platform into other vertical markets, and to allow Incyte to take an equity stake in Secant, he added.

Secant's emphasis on vertical markets makes the company "no longer reliant on its app server, which is a good thing," Bennett said. "What they have is kind of unique and unassailable, at least in the short term." ▮

News Briefs

MORE PEOPLE

◂ continued from page 6

as senior vice president of worldwide operations . . . **Tom Young** has joined Unwired Express Inc. as its vice president of sales. He most recently served as interim CEO and senior vice president of worldwide sales and marketing at Onesoft . . . Persistence Software Inc. has named **Ed Murrer** as senior vice president of marketing. Murrer was with Xcert International for 20 years before its sale to RSA Security earlier this year . . . **Larry O'Brien**, formerly SD Times columnist, joins CMP Media LLC's Software Development Magazine as interim technical editor, replacing **Roger Smith**, who left the publication this spring.

STANDARDS

The W3C's Cascading Style Sheets working group has published two new working drafts of **CSS Level 3** modules. The first is for cascading and inheritance: Part of CSS Level 2 rewritten as a module for CSS Level 3, the draft describes how values are assigned to properties using the cascade mechanism, inheritance and initial values. The second working draft is for value and units, and describes the valid values and units that CSS properties can accept, encompassing specified, computed and actual values . . . The W3C also has released **XML Base** and **XML Linking Language** (XLink) as official recommendations. XLink provides a way to allow elements to be inserted into XML documents in order to create and describe links between resources; XML Base provides a way to indicate the URI base for linking in XML . . . The W3C's XML Encryption Working Group has released the first working draft of **XML Encryption Syntax and Processing**, which specifies a process for encrypting data and representing the result in an element that contains or identifies the cipher data . . . ECMA has released a new specification, ECMA-327, which defines the third release of the **ECMAScript** language. ▮

New Web Services UI Spec Based on XSLT

BY DOUGLAS FINLAY

Seven Web content developers are initiating a new Web Services User Interface (WSUI) standard designed to enable developers who create Web services to plug them easily into Web applications, using an XSLT mapping tool to do so. Yet some analysts are already voicing differing opinions as to the impact such a standard will have on the industry.

When Web developers wish to incorporate Web services into their application, custom code often is required to create the connection between the application and the Web service—code that must be tailored to the specific SOAP, UDDI and WSDL parameters used by the Web service, as well as to the actual features of the Web service that the developers wish to employ.

"The Web Service User Interface is an initiative, an attempt to bring a framework of thought to how Web services could be defined in a portable way that allows them to be integrated into Web applications," commented Ed Anuff, co-founder of Epicentric Inc. (www.epicentric.com), the lead company of the proposed standard's working group committee. The other organizations behind the WSUI initiative are Documentum Inc., Intraspect Software Inc., Jamcracker Inc., NewsEdge Corp., Securant Technologies and Yellowbrix Inc.

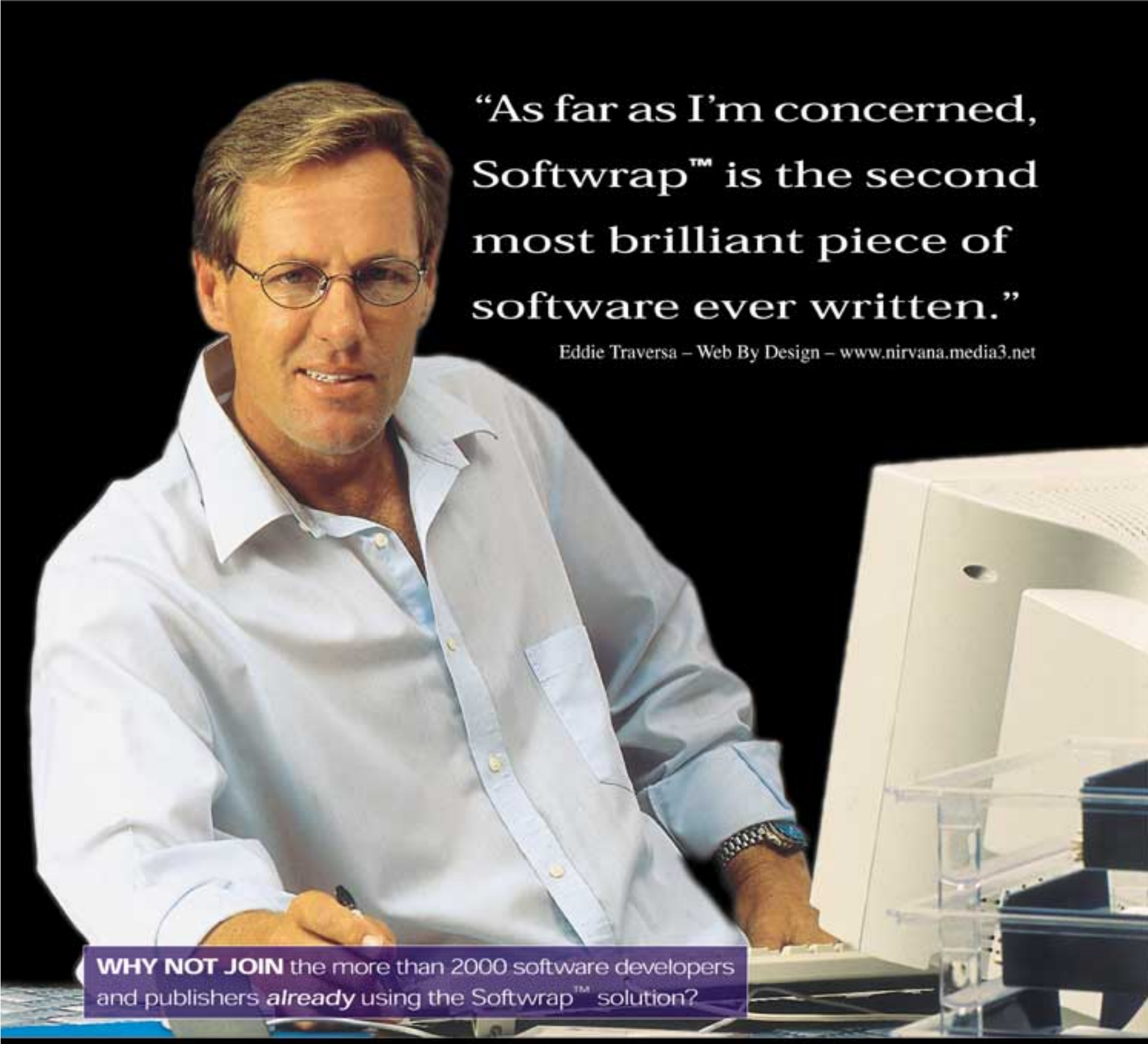
Both a working draft and the Java Reference Implementation to implement the draft are available at www.wsui.org/tech_information.html.

However, Anuff was uncertain where in the developing Web Services stack WSUI might go. "It could sit atop the emerging business processes protocols being developed, which themselves sit atop the low-level plumbing of SOAP, UDDI, WSDL and XML, or it could sit atop that plumbing itself," he said. But it was equally important, he said, that WSUI be viewed as a protocol offering complementary lightweight interaction flow that could be used within business processes when heavy workflow interaction was not required.

Tyler McDaniel, an applied-technologies analyst at Hurwitz Group, expressed doubt. "I question the legitimacy of this standard right now," he said. "These companies are not exactly the captains at the forefront of their industries," he said, adding that for these companies, the WSUI initiative may be a way for them to get publicity for their companies, he said.

However, Dirk Coburn, director of IDC's Java/XML e-business group, was more positive, maintaining that WSUI is poised to become an important user interface because of a high interest from developers who don't want to get locked into .NET. "I'm not surprised that there is a Java Reference Implementation for WSUI, or that they have contacted both IBM and Sun about viewing their progress," he said.

Epicentric's Anuff claimed that both IBM Corp. and Sun Microsystems Inc. had a representative watching the working group's evolution. However, neither company would identify anyone involved with the WSUI initiative. ▮



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ParaSoft's CodeWizard Improves on, Adds New Rules

BY DOUGLAS FINLAY

ParaSoft Corp. has added new capabilities to its CodeWizard automatic code enforcer for C/C++ with improvements to its rule creator, as well as new built-in rules targeted at embedded C developers.

The new version, 4, provides managers with improved tools for customizing rules with the addition of AutoCreator and TextWizard to the current RuleWizard feature, the company says. AutoCreator automates a portion of the rule creation process by identifying patterns in a piece of code the developer selects. From the patterns, developers can clean up or customize the pattern to make it a standardized piece of code, saving them the time in having to continually write new rules. TextWizard then enforces those format-related rules, including those related to white space and indentations, in addition to rules involving preprocessor directives, according to the company.

The new version, said Adam Kolawa, ParaSoft's (www.parasoft.com) president, adds new 64-bit transition rules to identify nonportable code constructs so they are caught before being ported from 32-bit architectures. New mobile embedded C guidelines further enhance portability and provide a comparison guide for size, value and quality of C code. CodeWizard 4.0 is available at $995 for a single Windows developer seat, and $2,495 for Linux and Unix. ▮

MKS BUILDS COLLABORATION INTO SCM TOOL

BY ALAN ZEICHICK

Mortice Kern Systems Inc. has decided to expand its offerings in the collaborative-development space by creating an enterprise edition of its Source Integrity utility.

The new configuration-management tool, which was due to be released in late July, is designed to give groups of developers more control over their source code. "It has new features for branding and merging code," said Dave Martin, vice president of product management. "It gives developers more control, so they can check out code, debug it and check it back in again. If they don't check out the code, it will merge their changes with changes that other developers made."

Martin said that Source Integrity 8.1 Enterprise Edition's biggest value may be its new integration with MKS' (www.mks.com) Integrity Manager, a process workflow management system, adding that this lets developers define "change sets," which encapsulate specific sets of fixes for a logical purpose, such as to apply patches for a specific end-user environment.

Source Integrity Enterprise Edition will be offered for 4,000 per server, plus a per-seat license. ▮

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Excelsior's Java Compiler Optimizes Code for Windows

BY DOUGLAS FINLAY

Excelsior LLC has introduced a mixed compilation model in its newly upgraded Java-to-Windows native code compiler, adding a just-in-time compiler to the company's static JET compiler to increase performance and reduce memory overhead.

Dmitry Leskov, director of marketing (www.excelsior-usa.com), said developers could use the $1,500 JET 2.0 Professional Edition by redistributing, along with the application, scaled-down versions of the JET compiler. "When the applications attempt to dynamically load a class, JET 2.0 loads and compiles that class and related classes into a DLL, which is then loaded as a conventional Windows DLL," he said. He called it "just-in-time compilation that complements the ahead-of-time [static] compilation done by the JET compiler."

Leskov went on to say that "the distinctive feature of our JET 2.0 just-in-time compiler is caching." He said that while other JIT compilers discard compilation results when the application terminates, JET 2.0 instead preserves DLLs that were dynamically complied. "When the application is run again and looks to load the same class, the runtime system will check the cache for consistency, and if the class files to be loaded are the same as those compiled into cached DLLs, those DLLs can simply be loaded without recompiling the classes," he said.

Also new to 2.0 are Java Runtime Environment (JRE)-independent executables, which are native methods for non-GUI-related Java 2 platform classes. ■

SOFTWRAP SELLS, UPGRADES ISV APPLICATIONS

BY ALAN ZEICHICK

Commercial application developers have a new option for safely selling software online, with an updated version of Softwrap Ltd.'s Softwrap electronic software distribution utility.

Described by company spokesperson Emma Morris as a "wrapper," Softwrap encapsulates program files within an executable that handles payment, upgrading and customer registration. This allows the program to be freely distributed, according to the company, with Softwrap's Web site (www.softwrap.com) acting as the payment clearinghouse. The company takes a percentage as a handling fee, on a sliding scale ranging from 15 percent to 5.5 percent.

The most important new feature in Softwrap 1.4 allows developers to sell software upgrades at a reduced cost, according to Morris. This capability also checks purchases made previously, and doesn't allow a discounted sale of the upgrade if the customer had been refunded via a credit-card charge back for the earlier version.

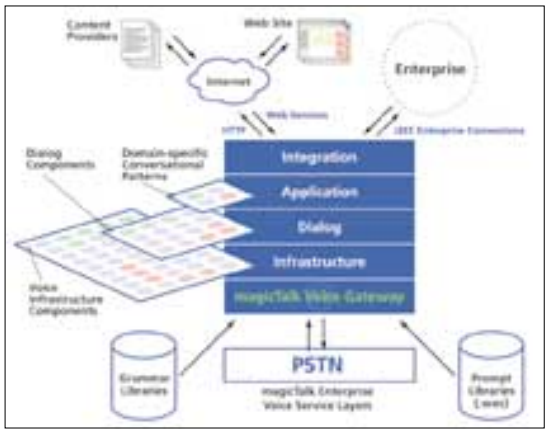
The Windows-only Softwrap 1.4 was expected to be generally available before the end of July, and the development kit can be downloaded free of charge. ■

General Magic Voice-Enables J2EE Applications Seamlessly

BY DOUGLAS FINLAY

General Magic Inc.'s new magicTalk Enterprise Platform is designed to extend J2EE-compliant applications to allow users to access them in real time via the telephone.

Comprising integration, infrastructure, dialog and application components, in addition to application tools, the platform is built atop the company's (www.generalmagic.com) magicTalk Voice Gateway, a Voice XML (VXML) development environment for creating VXML applications and generating XML tags.



Web applications and telephones can talk to one another.

Paula Skokowsky, General Magic's vice president of marketing, said that voice-enabling e-business applications could increase a company's returns on investment. "With the Enterprise Platform, you could take all that programming investment and extend those services out over the telephone," she said.

She claimed that customer information could now be tracked seamlessly in real time via either a Web application or by telephone because both would use the same data repository, which would be fed by multiple data channels. "The major problem we saw before was that the Web and telephony were not talking to one another," she said.

Skokowsky said the highest layer in the platform stack is the integration layer, or components that enable developers to create a voice application interface to J2EE. "Depending upon the vendor used, the developer would use a slightly different interface to attach to the J2EE," she said. The infrastructure layer comprises horizontal components that run voice applications not specific to a particular vertical application, she said, but for managing different domains of a connection, for example. The dialog layer comprises components that are both Java and VMXL which handle very common pieces needed in an application, such as log-in, greetings, menu choices, switching between domains, or providing for help functions.

The two final layers are application components that behave as functions, such as order tracking, product availability and order status, and application tools. Currently in beta testing, the magicTalk Enterprise Platform will be available at the end of September. ▮

SmartCode RDF Kit Gets Code-Generation Engine

BY CHRISTINA M. PURPI

Information Architects Corp. has upgraded its SmartCode Java/RDF development kit to include tools that the company said will automatically link code and content through the use of metadata.

SmartCode 4.0 (www.ia.com) is a plug-in to Sun's Forte for Java IDE that allows developers and nonprogrammers to assemble metadata-based Java applications that create, manage, merge and repurpose Web page content without the need to hard-code the views, according to the company. SmartCode sits between the data and the users, providing a view of internal and external content. The metadata identifies content as objects, enabling developers to manipulate the content without reconfiguring the data access, the company says.

This new release is model-driven and automatically generates code by using metadata as its building blocks, according to Leon Shklar, Information Architects' CTO. "It's the glue that ties together all the pieces." Shklar explained that first you build or create the model, then attach an executable component; then the code generates on the back end. "You don't need a team of class-A programmers; you just have to have people with a basic knowledge of programming," said Shklar.

SmartCode 4.0, which is sold on a per-server fee schedule, separates the content and the presentation, allowing both to be manipulated independently, according to the company. SmartCode is J2EE-compliant and supports XML, XSLT, RDF, XPATH, XHTML and SOAP.

In addition to providing reusable components, it provides support for application modeling and data modeling based on the W3C's Resource Description Framework standard. "The only way to penetrate the market is to support open standards," said Shklar. ▮

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Curling Up With Web Applications

Surge development environment optimized for performance, efficiency

BY DAVID RUBINSTEIN

Improving upon its technology for developing and delivering Web applications that execute on the local client, Curl Corp. has updated its Surge development environment to reduce the size of file download, improve runtime performance, and fine-tune its user interface.

Surge 1.1, according to marketing vice president Bob Batty, is the first iteration of a long-term strategy to improve the quality of the downloaded application. "We address things like load time, runtime, and…making downloads of content more efficient," he said. Batty claimed that when applications are constructed in the Curl Content Language, users bring down only the functionality they need, resulting in a shorter delay before the application begins executing. Surge is a full object-oriented programming environment that unites scripting, markup and graphics and allows developers to maintain code in one place, he said, which allows companies to reduce the cost of maintaining the client side of applications by delivering only the changes needed to the client.

Improvements to the graphical user interface provide greater forms capability for developers, he said. Other new features are backward compatibility, meaning the client piece of Surge does not have to be downloaded every time a new version comes to market; the Surge engine contacts the Curl Web site and brings down only those libraries necessary for a specific application. "This is a convenience that anyone who has ever downloaded [Adobe's] Acrobat or [Macromedia's] Flash can appreciate," he said.

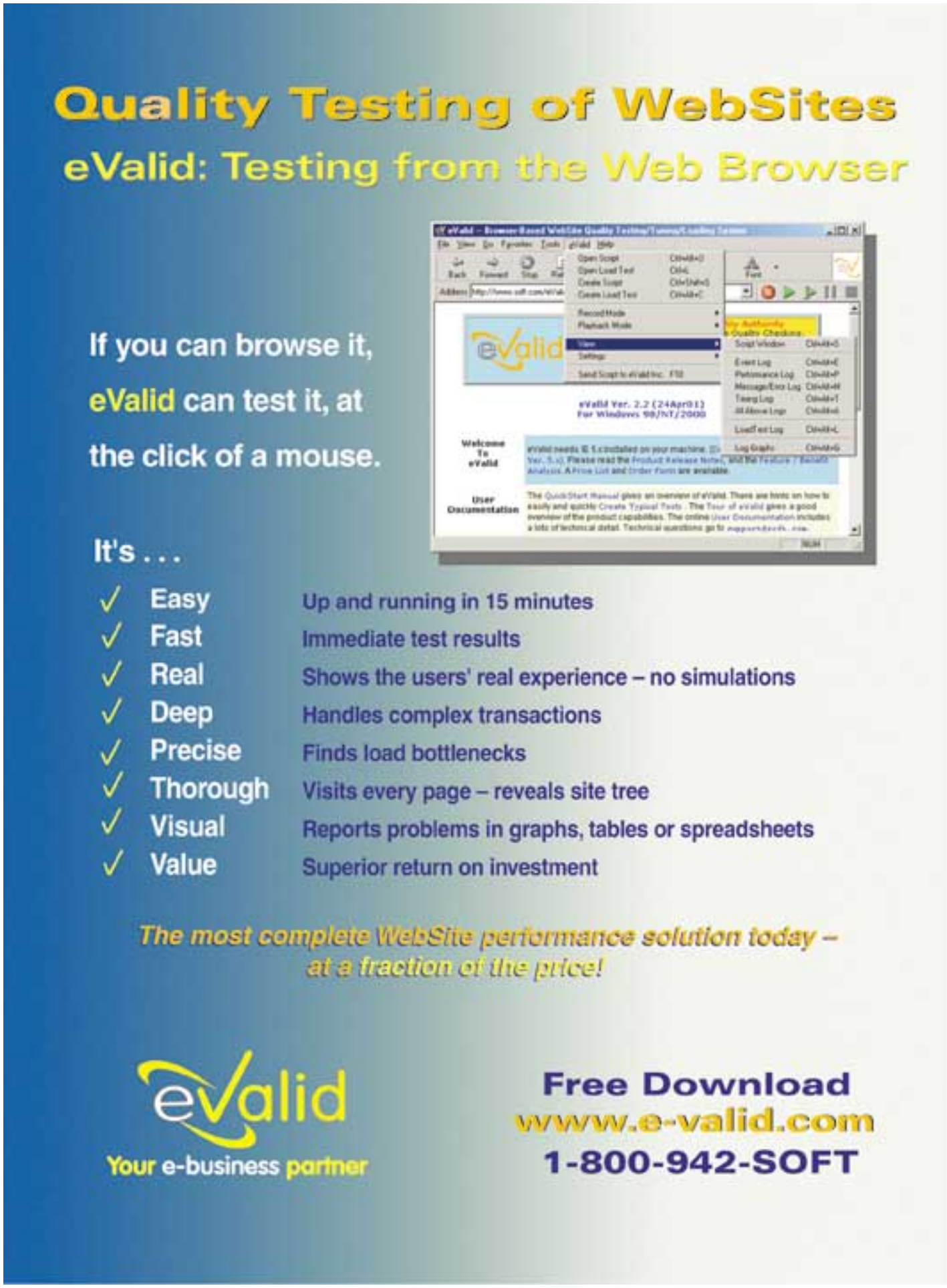
Another key new feature, he said, is support for double word data types, so large financial or scientific institutions can use the Surge environment for the handling of very large numbers.

"This really represents a back-to-the-drawing-board approach to the Internet," said Peter O'Kelley, an analyst with the Patricia Seybold Group. "As things get more distributed, being able to get the power of the client will become even more important."

While Curl is not alone in claiming a vision of an "executable Internet"—companies such as Kenamea and REBOL have comparable offerings in the market—O'Kelley claimed that Curl is singularly focused on distributed Web applications. "One might argue it's a good synthesis of an alternative to Java or .NET. Curl is not trying to be the entire continuum," he added.

Curl (www.curl.com) is approaching academic institutions to develop Curl applications, offering monetary awards for the best applications developed by August 2002. Also, a CurlWorld Conference is set for January 2002 at which Web pioneer and Curl co-founder Timothy Berners-Lee is expected to speak.

"If they can deliver the productivity results they say," O'Kelley said, "they'll get a lot of attention with some killer case studies." ▮



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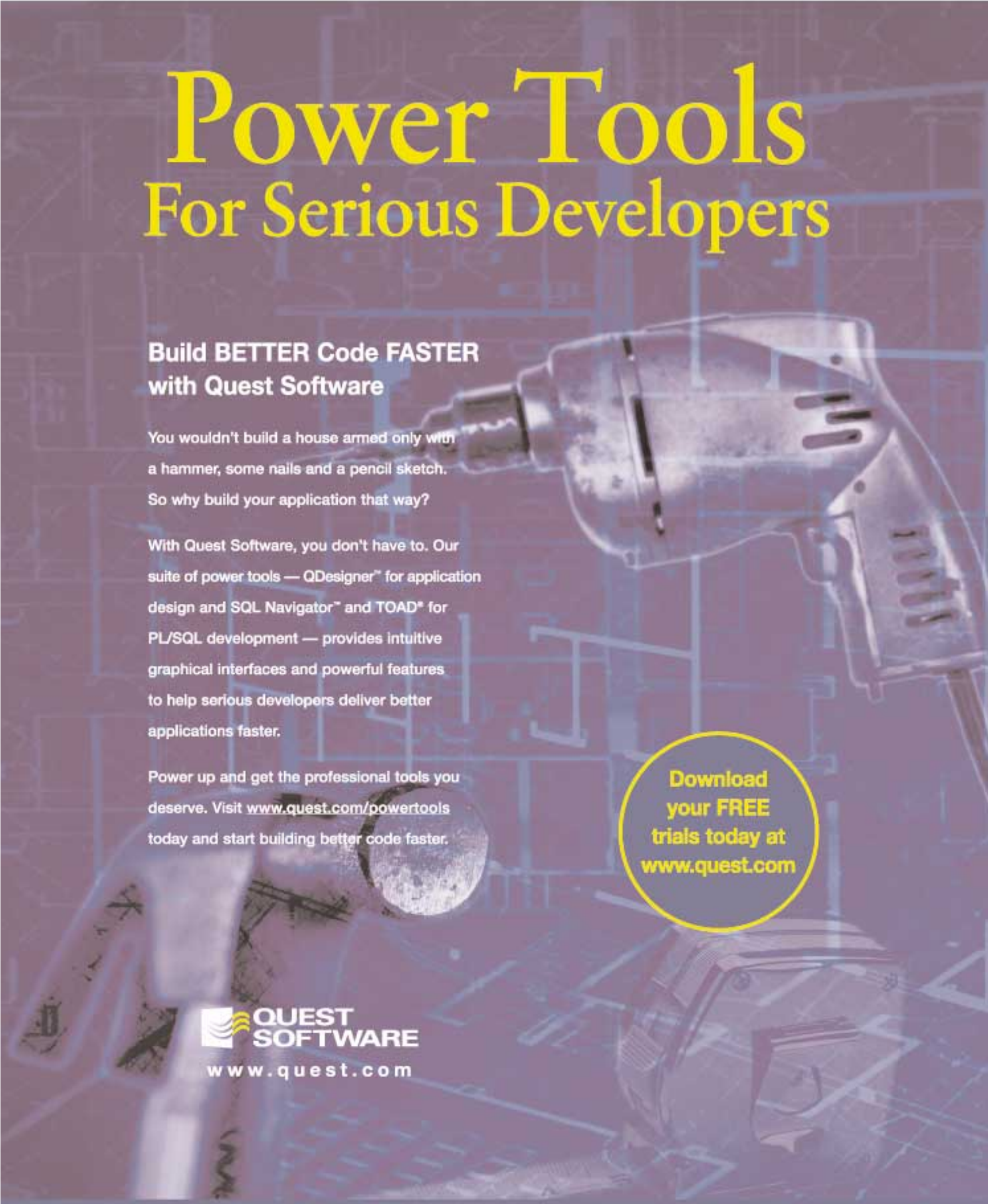

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LinuxWorld Features First-Ever Worldwide Developer Conference

BY CHRISTINA M. PURPI

A new series of technical sessions focusing on the needs of application developers will debut at this summer's LinuxWorld Conference & Expo in San Francisco.

The Worldwide Developer Conference will provide the open-source community with a venue for technical training and educational forums on application design and development and is being presented by top Linux developers, according to show producer IDG World Expo.

With preregistration numbers doubling last year's, and to better accommodate the event's growing popularity, the conference will take place at the Moscone Center with additional courses and sessions being held at the San Francisco Marriott from Aug. 26 to Aug. 30. Some technical classes and sessions include courses titled "How Open Source Software Will Build the Internet of the Future," and "Middleware Solutions Using Open Source Alternatives."

The conference will feature keynote speakers Shane Robison, CTO and senior vice president of Compaq Computer Corp., who will speak on the role of Linux in the enterprise; and Lawrence Lessig, professor of law at Stanford Law School and a columnist for the Industry Standard, whose talk is titled "Old vs. New: The New New Old War." Also speaking will be Mathew Szulik, president and CEO of Red Hat Inc., who will offer his views on the next wave of open source and its effects on the technology industry.

Larry Augustin, CEO of VA Linux Systems Inc., will host a panel discussion on "The State of Open Source," with Linus Torvalds as one of the panelists. ▮

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Moscone Center and San Francisco Marriott, San Francisco

CONFERENCE HOURS:
Monday, 9 a.m.–4 p.m. (tutorials)
Tuesday, 10:30 a.m.–7:30 p.m.
Wednesday, 10:30 a.m.–7:30 p.m.
Thursday, 10:30 a.m.–2:15 p.m.

WORLDWIDE DEVELOPER CONFERENCE:
Sunday, 9 a.m.–4 p.m. (tutorials)
Monday, 9 a.m.–4 p.m. (tutorials)
Tuesday, 10:30 a.m.–7:30 p.m. (at Marriott)
Wednesday, 10:30 a.m.–7:30 p.m.

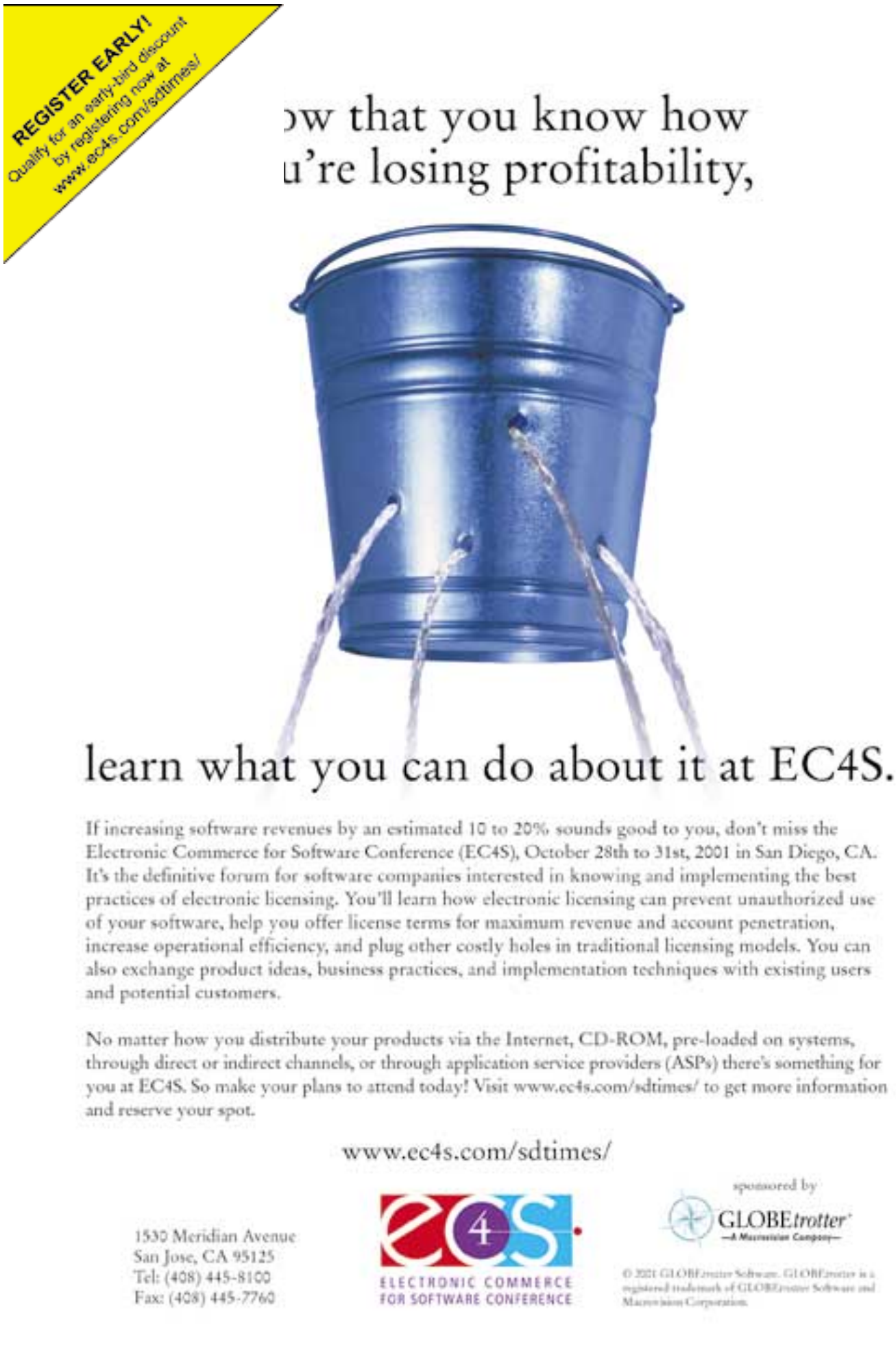
EXHIBIT HOURS:
Tuesday, 10 a.m.–6 p.m.
Wednesday, 10 a.m.–6 p.m.
Thursday, 10 a.m.–4 p.m.

KEYNOTES:
Tuesday, 9 a.m.–10 a.m., "Linux Throughout the Enterprise—Ready or Not?" Shane Robison, CTO and senior vice president, Compaq Computer Corp.

Wednesday, 9 a.m.–10 a.m., "Old vs. New: The New New Old War," Lawrence Lessig, professor of law, Stanford Law School.

Thursday, 9 a.m.–10 a.m., "Linux and Beyond," Mathew Szulik, president and CEO, Red Hat Inc.

www.linuxworldexpo.com



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BORLAND

◂ continued from page 1

e-business applications, there's a need for a new set of tools and processes. Developers are no longer collaborating only with other developers, but with JavaScript developers, Web designers, graphic artists and even end users," Riga said.

When first released, TeamSource services will consist of secure source-code control, general asset management and a messaging framework for developer collaboration. Riga said event tracking will be added before the end of the year. According to Riga, the tools will integrate with all of Borland's existing development environments. Team members not using Borland products will download so-called "fatlets," which Riga described as tools not quite as fat as desktop applications and not quite as thin as browser-based applications. He said a fatlet is simply a local Java user interface "with most of the intelligence executing on the server side."

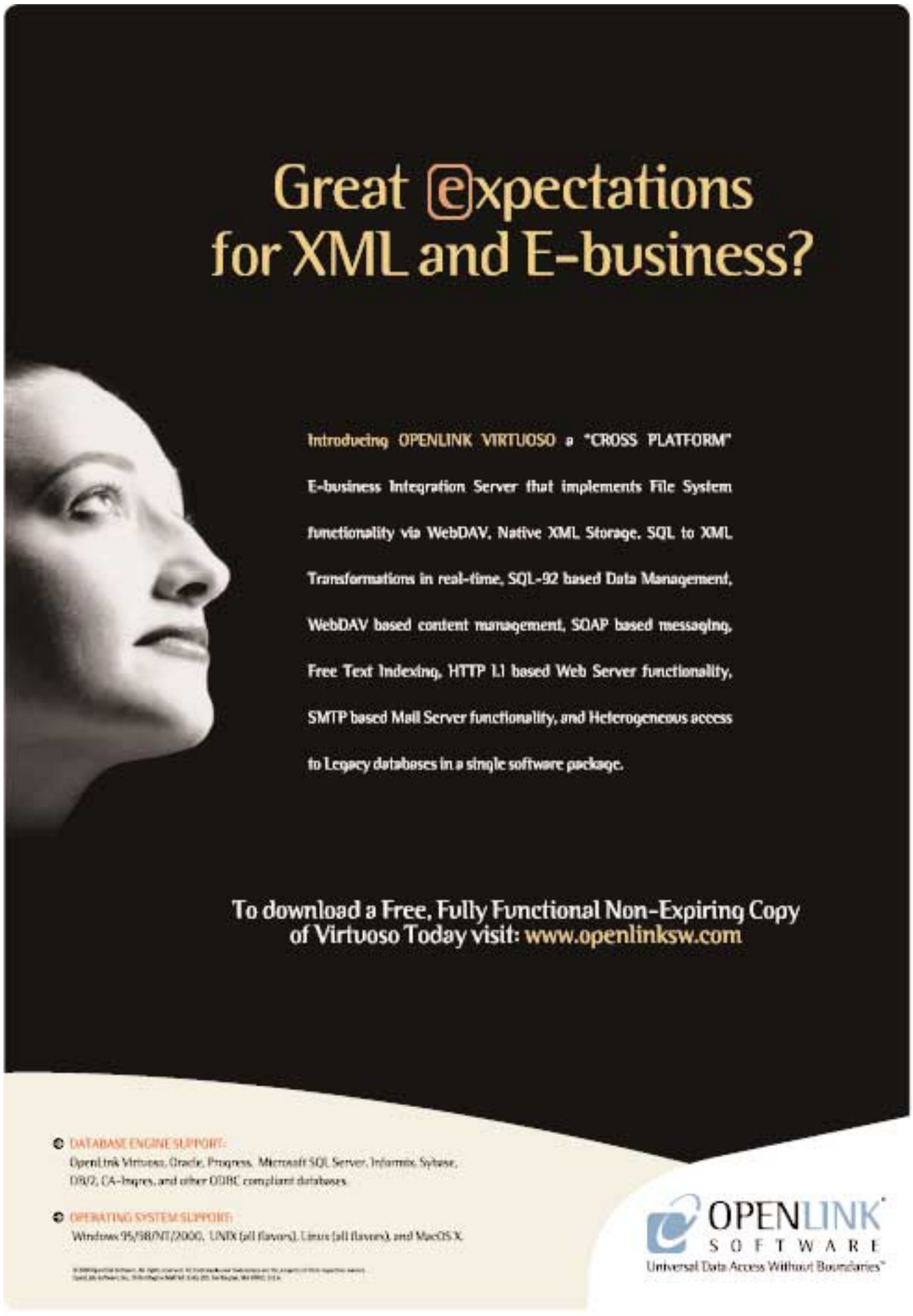
The collaboration tools, Riga said, will be similar to some that are popular today, but with a few exceptions. "When you use tools like those from AOL, Yahoo and Microsoft, as soon as you close the message window, the conversation is lost." The Borland version, Riga said, will add persistence, indexing and searching, and will have the ability to attach messages to particular objects, such as source code, bugs or features. "You also can have explicit channels for any topic or repository object. Rather than having a general-purpose room for people to chat in, there can be a channel that is specific to a particular piece of source code."

Also in the first release will be asset management, which Riga said is important to today's heterogeneous development teams. "You have to be able to manage all digital assets; not just C++ and Java, but also HTML, images," and documents from word processors, spreadsheets and whatever tools developers are using.

Riga said that in the past, developers already accustomed to using technically complex development tools could easily adapt to collaborative tools such as those from Rational. "It was primarily [Rational's] Clear Case and Clear Quest that became the collaborative tools for developers."

But now, development teams are having to cross a functional boundary, he said, and many of today's existing tools and techniques that work fine for developers "start to fail when the person you're collaborating with is nontechnical. Today, technical and nontechnical developers need a way to collaborate that streamlines communication and doesn't force them to concentrate on infrastructure."

The tools will be written to an open API, which Riga said will open a new realm of opportunities for ISVs, giving them "an additional installed base to communicate with and to sell their wares to." He said such niches could include code metrics tools, testing environments or design and documentation tools. "There are many different niche areas in the life cycle of an application [which give rise to] niche vendors," or instances in which developers want access to a particular function for a limited time, such as with load testing, deployment testing or code analysis, he said. Such "pay-per-view" capabilities will be among Borland's offered hosting services. ▮



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Mac OS X

An Overview for Developers

With Mac OS X, Apple asserts its leadership in the advanced technologies and design sensibilities that are the hallmarks of any great operating system.

Mac OS X is a completely rebuilt implementation of the Macintosh operating system. It expands on Apple's technological strengths, such as industry-standard networking capabilities and industry-leading user interface design.

More importantly, Mac OS X combines those strengths with support for a variety of technologies beyond those typically associated with the Macintosh, such as UNIX and Java 2 Standard Edition. This unique combination of technologies offers developers stability, power, and interoperability, beneath a well-designed, elegant, and intuitive user interface. As a result, Mac OS X presents new opportunities for both development and deployment.

Darwin

The stability of Mac OS X begins with Darwin, the open source core of the system. Darwin integrates a number of technologies, including the Mach 3.0 kernel, operating system services based on BSD UNIX, high-performance networking facilities, and support for multiple integrated file systems. Further, Darwin's modular design lets developers dynamically load such things as device drivers, networking extensions, and new file systems.

Apple and Open Source

Apple is the first major computer company to make open source development a key part of its ongoing software strategy. The core of Mac OS X, Darwin, is itself an open source project. This approach to operating system development allows developers and students to view the Darwin source code, learn from it, and submit suggestions and modifications. Developers can participate in the Darwin open source project by signing up at **http://www.opensource.apple.com**.

Darwin's advanced memory protection and management system ensures reliability by allocating a unique address space for each application or process. The Mach kernel augments virtual memory semantics with the abstraction of memory objects. This enables Mac OS X to manage separate application environments simultaneously, while presenting users with a seamless experience.

Darwin also supplies the following advanced functionality:

- Preemptive and cooperative multitasking.
- Symmetric multiprocessing (SMP) augmented by support for multithreading.
- Real-time support guaranteeing low-latency access to processor resources for time-sensitive media applications.
- An object-oriented device driver programming framework called I/O Kit.

Graphics System

Mac OS X combines three powerful graphics technologies, Quartz, OpenGL and QuickTime, enabling developers to push graphics beyond anything users have seen on a desktop operating system.

Mac OS X system architecture

Quartz

Quartz is the foundation of the Mac OS X imaging model. It is comprised of a high-performance, lightweight window server and a graphics rendering library for two-dimensional (2D) shapes. The window server features such advanced capabilities as device-independent color and pixel depth, layered compositing, and buffered windows for the automatic repair of window damage.

The Quartz rendering model is based on the cross-platform Portable Document Format (PDF) standard, enabling developers to easily embed and manipulate PDF data within any Mac OS X application. This yields such benefits as automatic PDF generation and save-as-PDF, automatic onscreen preview of graphics, conversion of PDF data to printer raster data or PostScript, and a consistent feature set for all printers.

The layered compositing engine used by Quartz allows developers to create unique onscreen effects. It replaces the "switch model" of traditional windowing systems with a "video mixer" model in which every pixel on the screen can be shared among windows in real time. This model allows for smooth transitions between the states of the graphical user interface.

Quartz also provides developers with these advantages:

- On the fly anti-aliasing of graphics and text enabled by the use of a floating-point coordinate system and high-precision vector processing.
- Direct access to the video frame buffer.
- Automatic detection of and benefit from the floating-point coprocessing performed by the Velocity Engine in PowerPC G4 microprocessors.

OpenGL

For three-dimensional (3D) graphics, Mac OS X features an optimized implementation of industry-standard OpenGL. OpenGL is one of the most widely adopted graphics standards today, making code written to OpenGL extremely portable and making generated visual effects highly consistent. It is specifically designed for games, animation, CAD/CAM, medical imaging, and other applications that need a rich, robust framework for visualizing shapes in two and three dimensions.

QuickTime

Mac OS X comes packaged with the latest version of QuickTime, a powerful multimedia technology for manipulating, enhancing, and storing video, sound, animation, graphics, text, music, and even 360-degree virtual reality. It also allows streaming of either live or stored digital video. As a cross-platform technology, QuickTime can deliver content on Macintosh and Windows systems. Augmenting its cross-platform capabilities, QuickTime supports every major file format for images and every significant professional file format for video.

Through the QuickTime plug-in, QuickTime's digital video streaming capability is extended to all popular web

browsers. The plug-in supports over thirty different media types and makes it possible to view over 80 percent of all Internet media. QuickTime also features other advanced web streaming capabilities, such as movie "hot spots" and automatic web page launching.

User Interface

The most visible expression of Mac OS X power and technology is its new user interface, Aqua. Apple applies its leadership in user interface design to Aqua, incorporating many of the qualities and characteristics Macintosh users expect, while adding advancements to benefit expert and novice users alike. Ease of use is factored into every feature and capability.

Consistent with Apple's design philosophy, visual enhancements serve not just as beautiful images, but as cues to the functionality and operation of the system.

A prime example of this user-focused design is the use of "sheets." These non-modal dialog boxes attach directly to the title bar of the relevant document, intuitively linking document and action. The non-modal nature of sheets prevents applications from hijacking the system and interrupting user workflow.

Interoperability

Mac OS X makes unprecedented use of technologies and standards that allow interaction with other platforms. This affords both developers and users the opportunity to use Macintosh computers in new places and in new ways. Mac OS X manages multiple file and networking formats and supports a wide range of industry-standard protocols. Based on an enhanced VFS design, the file system supports multiple local formats and complies with POSIX file system semantics.

Hardware connectivity is simplified through built-in support for Ethernet (10/100/1000Base-T); serial connections for modems, ISDN, DSL; wireless networking through AirPort (IEEE 802.11); USB (Universal Serial Bus); and FireWire (IEEE 1394).

Java 2 Standard Edition

Mac OS X ships with a complete implementation of Java 2 Standard Edition (J2SE) version 1.3, including the HotSpot client virtual machine. Benefits of Apple's Java implementation include access to Aqua user interface elements "for free" through Swing, native preemptive multitasking, automatic multiprocessing support and management of JAR files as shared libraries.

This last advance improves the speed of execution and reduces the RAM footprint of applications which rely on the same archive, such as applications within suites. Mac OS X also plugs the Java windowing toolkit more directly into the Mac's native windowing toolkit, giving Java applications and applets the graphics performance benefits of Quartz.

Backward Compatibility

To afford users a gentle migration path, Mac OS X builds on Darwin's ability to manage multiple application environments simultaneously. The Classic environment is actually a full version of Mac OS 9.1 running in a protected memory space under Mac OS X. As a result, most Mac OS 9 compatible applications will run side-by-side with Mac OS X applications.

Additionally, developers can code for Carbon, a native Mac OS X environment that allows programmers to take advantage of advanced Mac OS X features while retaining compatibility with the installed base of Macintosh computers running Mac OS 8.1 and later.

Development Options

There are multiple ways to develop for Mac OS X. Individual skills, preferred languages and tools, target user base, and time to market concerns will influence a developer's approach:

Carbon

The Carbon APIs are based on earlier Mac OS APIs. While Carbon allows applications to take advantage of Mac OS X features such as multiprocessing support and the Aqua user interface, Carbon is specifically designed to allow compatibility with older versions of the Mac OS.

Cocoa

The Cocoa application environment runs natively under Mac OS X. For those who wish to develop for Mac OS X using rapid application development (RAD) tools and object-oriented techniques, the Cocoa frameworks provide a fast and complete way to do so. These frameworks offer both Java and Objective-C APIs.

Java

The Java application environment allows development and execution of Java programs on Mac OS X, including 100% Pure Java applications and applets. The J2SE implementation in Mac OS X is designed to allow maximum Java application portability. Developers can also use the Java development language to write a Cocoa application, allowing Java programmers to use a familiar language to develop for a new platform.

UNIX

Since Mac OS X is built atop a UNIX kernel, porting UNIX-based applications to the platform is relatively easy. This enables enterprise-level UNIX products to enjoy parity with consumer and business applications on a commercial desktop platform.

Mac OS X offers opportunities for developers from many different backgrounds to port and build innovative and compelling applications.

And the best way to get started is with the Apple Developer Connection:

Apple Developer Connection membership programs offer benefits such as prerelease software seeding, code-level technical support, news and technology updates, and discounts on business support services. Developer documentation and resources are available free at **http://www.apple.com/developer**.

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ClientSoft Provides Host Access for Web Services

BY CHRISTINA M. PURPI

Looking to strengthen its position in what it calls the "user interface extension market," ClientSoft Inc. has bolstered its WebPack legacy-to-Web application transformation tool kit and renamed it AdvancedServer, adding SOAP and XML protocols for the creation of Web services.

The AdvancedServer, a transaction server, features a component-based plug-in design for extensibility, according to Luis Delahoz, executive vice president of ClientSoft (www.clientsoft.com). "The AdvancedServer is everything the WebPack is and more; it is also easily upgradable."

WebPack allowed developers to integrate applications from data sources, such as IBM's S/390 and AS/400, and SQL-based databases, using Visual Basic, PowerBuilder, Delphi, C++ or Java.

The new release, Delahoz said, adds multiprocessing capability for tasks and transactions, as well as a monitor for load balancing. Remote access to the monitor allows developers to complete the tasks required to ensure the system is operating correctly from any location, he added. Administrators can connect to multiple application servers to view statistics and status information remotely—"instead of just viewing the information, you can conduct business transactions and place orders," Delahoz said.

According to Dale Vecchio, research director for application development at GartnerGroup Inc., the user interface extension market is filled with many small vendors offering similar products. "The number of vendors will be consolidated from approximately 50 to 20 in the next three years," he said. "There are few real leaders in this market," he added, naming IBM, ClientSoft, Seagull and Jacada.

AdvancedServer is available now and priced at $60,000 for up to 100 mainframe connections, with each connection able to support 300 to 500 users, he said. ■

STARBASE

◂ continued from page 6

son, is that the pro version has an embedded OLAP engine and data mart, licensed from Business Objects SA, customized to CaliberRM's database schema. Using the OLAP capabilities, senior managers can perform advanced analysis of projects and their requirements, primarily for the generation of metrics.

Pricing for CaliberRM Professional is complex. A system requires a CaliberRM server license, at $9,995, and a data mart server license, at $4,995. Business managers require a Professional Explorer license, which lets them pull up reports and analytics using a dedicated client, at $1,995 per seat; developers would require a CaliberRM license at $1,495; development managers who need full access to both the CaliberRM system and the OLAP analytics can get a combined license for $2,995 per seat.

According to Patterson, the company's emphasis is shifting more to marketing its Collaboration Suite, and less on the individual products. ■

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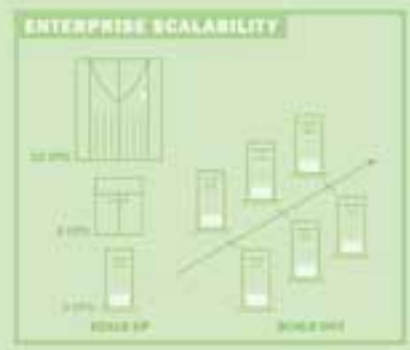

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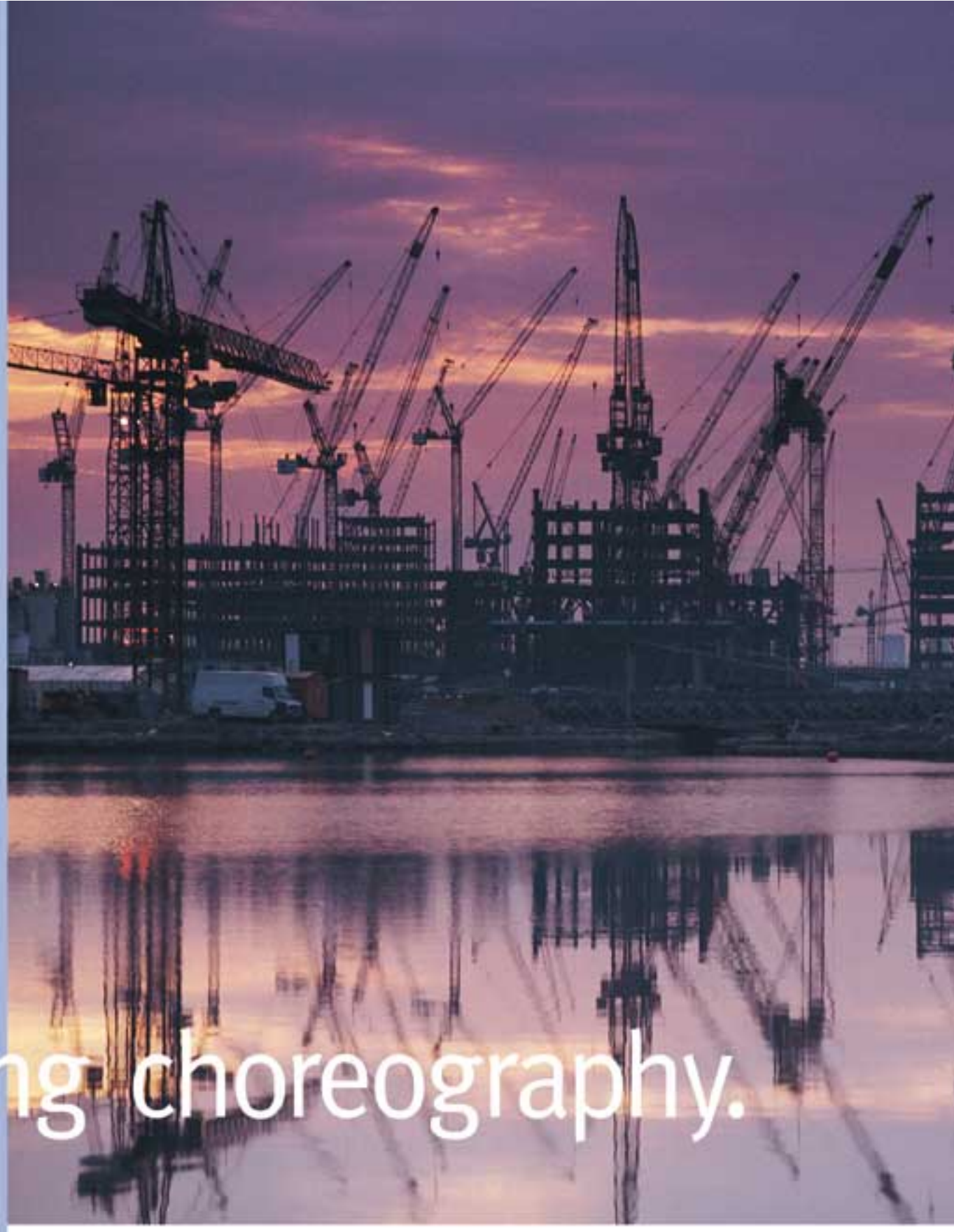

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Red Hat Releases GNUPro 2001

Cross-platform development tools position applications for migration

BY EDWARD J. CORREIA

After nearly two years without a major update, open-source developer Red Hat Inc. has released GNUPro 2001, a new version of its cross-platform open-source development tools that the company says offers improved integration with its embedded RTOS and bootstrap solutions, and supports a multitude of new target platforms and enhances others, giving developers the tools they need to migrate their applications to open-source platforms.

According to Paul Salazar, director of Red Hat's embedded marketing and services, the development efforts on GNUPro have been full force despite the long delay. "We're always out there pushing the frontier and delivering the technology for our paying partners. What you're seeing now is a release that we believe is the right package for general use," he said.

"Since 1999, a lot of activities have been evolving on parallel tracks, and that has benefited all customers who follow [various] platforms," added Red Hat CTO Michael Tiemann. "Now that we've put all this back under one main roof, it gives people a whole new ability to unify their development platforms or incorporate new ones."

People are moving to open RTOS solutions, says Red Hat's Tiemann.

Tiemann touted GNUPro as a migration tool. "There's a major shift going on in the embedded industry. People are growing out of old proprietary RTOSes that have been around since the 1980s and are looking to move to open solutions," he said, adding that a key ingredient of that migration effort will be a set of development tools that support the old and new platforms. "One of the major features of the current release is its ability to span the wide range of platforms and help people in their migration efforts."

Tiemann said that in addition to supporting the company's own eCos RTOS, RedBoot embedded BIOS and Red Hat Linux, GNUPro 2001 supports RTOSes from LynuxWorks, Wind River VxWorks and the modern version of VRTX now owned by Mentor Graphics.

"Any developer who has an application they would like to deploy onto a thin client or a quasi-embedded device would have few problems using this toolkit to migrate off a Unix desktop and onto an embedded device because of its broad target and platform support," said Salazar.

Source code for all the tools is available now and may be downloaded for free at www.redhat.com/apps/download. The software also is available on CD when purchasing one of two support subscriptions. Subscriptions for the Linux-hosted version cost $9,995 per year for a maximum of five support incidents, or $1,999 per developer seat for unlimited support. Unix- and Windows-hosted versions cost $12,500 per year for five incidents or $2,500 per unlimited support seat. ■

eDevice to Provide VoIP Development Kit

BY EDWARD J. CORREIA

eDevice Inc. on July 30 was scheduled to release SmartStack VoIP, a voice-over-IP communications stack and digital signal processor that it claims will provide developers with everything necessary to create IP-based phones and other devices using a single off-the-shelf DSP.

According to the company (www.edevice.com), the software will include a voice coder-decoder for handling VoIP data flow, physical modem layers for Ethernet and public switched telephone networks, and all necessary Internet protocols and components. Developers will have the option of purchasing the software preinstalled on an Analog Devices DSP or integrating it with their own hardware. The Analog DSP will be preintegrated with a modem or Ethernet interface, and automatically handles the Internet connection and requires no additional gateways or custom code to VoIP-enable a device, the company says. Pricing for the stack alone, including for physical layer interfaces, Internet protocols and VoIP, starts at $4 per device.

eDevice's low-cost VoIP stack also can add other Web services, says Berrebi.

Marc Berrebi, eDevice's CEO, said that the benefits of using his company's single-chip VoIP stack are not limited to simplicity of device design. "Corporations can realize substantial savings by routing voice telephony over the Internet and company-wide intranets," he said, adding that the solution helps make this possible by enabling all manner of low-cost voice-enabled devices. The stack also can add e-mail, FTP and Web server functions to a device without the need for an embedded PC or special ISP, he said. ■

Gravity Does Heavy Lifting

BY EDWARD J. CORREIA

Targeting the broad market of wireless Web developers, Intava Corp. has released a public beta version of Gravity, a set of tools for extending business applications to mobile WAP devices.

"We believe that today's Web developers are underserved and forced to sort through many hard-to-use and proprietary toolkits that only partially meet their needs," said Troy Carrol, Intava's co-founder and CEO. "Gravity is the first Web development tool designed by and for Web developers."

Gravity lets developers build apps for multiple devices simultaneously.

The software centers around an integrated development environment that the company claims will permit developers to build WAP applications for multiple devices simultaneously. Multiple device simulators can be displayed at once as WML 1.1-compliant applications are built and debugged in real time. The environment, which also supports cHTML, ASP and JSP, includes prebuilt drag-and-drop components for common programming tasks such as speed dial and key assignment. Code can be individually edited to fine-tune mark-up language and scripts for devices. Finished applications can be published to an existing Web infrastructure with no additional server software, the company said.

A fully functional beta of Gravity for Windows development hosts can be downloaded at www.intava.com/Gravity with free support for those who register. General release is scheduled for later this year. ■

APPLIED COMBINES NETROM, CODETEST FOR VXWORKS

BY DOUGLAS FINLAY

Applied Microsystems Corp. is helping developers analyze and debug code in Wind River Systems Inc.'s VxWorks real-time embedded operating system by combining its CodeTest and NetROM products. The combination is designed to form a host-to-target networked communications channel for developers whose systems do not have a usable communications port for debugging and development.

With it, developers can debug and analyze high-end embedded systems over a high-speed communications channel while maintaining connection to the target.

NetROM accelerates the development cycle by linking the software analysis and debugging tools via Ethernet connections, and functioning as a communications gateway, said the company, which claims that constructing a high-speed connection to the target during the entire development and test process results in a better-quality product that also reduces overall cost in building it.

Meanwhile, CodeTest offers development teams testing and analysis methods that migrate through each stage of development.

Steve Dearden, Applied's (www.amc.com) vice president of marketing, said that until the combination of both CodeTest and NetROM, developers using VxWorks-based targets had no way of maintaining a continuous and independent connection to the target while they debugged and analyzed the code.

He added that developers can now take advantage of a networked environment throughout the entire debugging process, even if their design did not support the network directly, because NetROM would provide the linkage and CodeTest the measurement and visibility into the application. ■

RADISYS

◂ continued from page 1

it was its IXP1200 customers that helped Microware find its suitor. "We found ourselves side by side in many of the same accounts," with Radisys providing the hardware, and Microware supplying the software. Microware will become a wholly owned subsidiary of Radisys with Kaplan likely to be named its general manager, he said.

Stuart Cohen, vice president of worldwide marketing at Radisys (www.radisys.com), said that Microware's microcode and developers were the acquisition's real prizes. "The acquisition provides us with a highly differentiated position because of their IXP1200 software and services combined with our hardware."

Kaplan was optimistic about being acquired. "I won't be fighting with one hand tied behind my back anymore," he said, adding that when Microware lost a bid, the reasons often were due to fear, uncertainty and doubt among its prospective customers. "What our competitors have consistently done over the last couple of years has been to throw FUD" about the company's weak finances. "Now that issue is gone," he said. Microware's stock, which had been trading at 48 cents per share, jumped to 65 cents on the news, but was still down from a 52-week high of $2.69.

Because of this and other woes, Microware has had the acquisition door open for some time, Kaplan said. "We had spoken to investment bankers about finding a good partner, but Radisys had originally approached us, not the other way around." Cohen said that Microware's rocky finances did not deter Radisys. "We've done the due diligence, and we're very comfortable with them as a company," he said, adding that Radisys considered the $13 million a good value, and with the rapid growth of the IXP1200, "this puts us in a leadership position."

Motorola, a major investor in Microware, was never in the running, said Kaplan. "It was a touchy situation; Motorola is an important customer. When I talked to some of their [mergers and acquisitions] people, they were selling, not buying." ▮

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Utility Edits ZFx86 BIOS

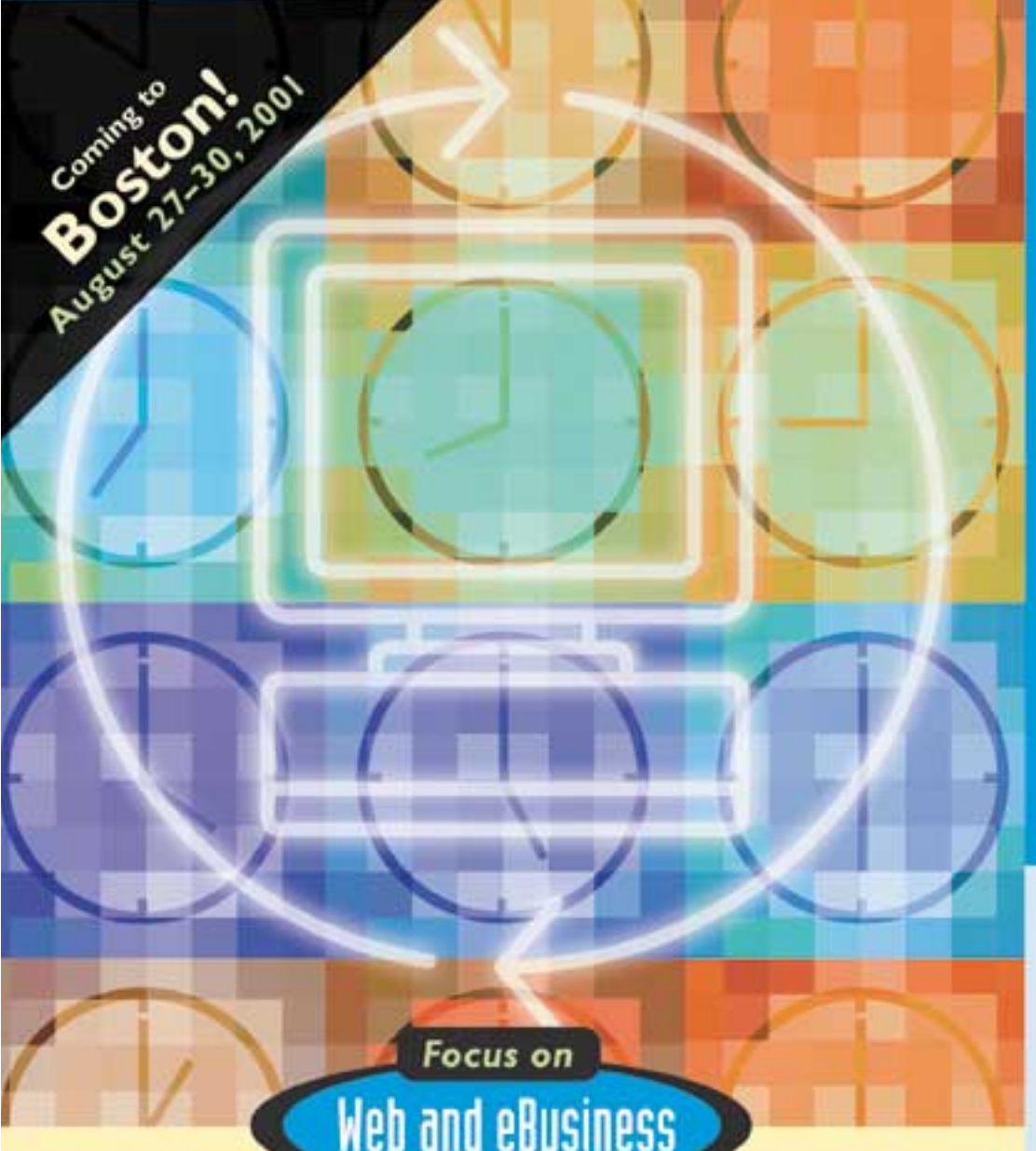
BY EDWARD J. CORREIA

ZF Micro Devices Inc. has released the ZF Edit BIOS Utility that permits developers using the company's ZFx86 system-on-a-chip to create customized BIOS images without having access to the BIOS source code.

According to Chris Gill, vice president of development and marketing, the utility for DOS and Windows brings BIOS editing capabilities to embedded designs. "The chief benefit is that it gives developers the ability to customize the embedded BIOS very simply, and without having to recompile," Gill said.

The need to customize the BIOS is common in embedded designs, said David Arthur, a technical support specialist with ZF Micro. The corrected BIOS—a binary file—can be flashed when the device boots up, he added. The utility also supports the creation of a debug version of the BIOS, which automatically redirects its power-on self-test codes to the serial port. For designs with a display, custom splash screens also are supported.

The ZF Edit BIOS (ZEB) Utility is available now as part of the ZFx86 Integrated Development System or can be downloaded separately at www.zfmicro.com/downloadtable.html. ▮



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Web Database Objects Links Oracle, Java

BY CHRISTINA M. PURPI

Software Design Automation Corp. has introduced Web Database Objects (WDO) 1.0, a code generator that takes an object model specification written in XML and automatically generates a Java archive file, which eliminates the majority of the necessary programming. It allows for development of business level objects in environments using a Java application server and Oracle database.

Vinay Sabharwal, CEO of Software Design Automation, claimed that WDO eliminates the object-relational mapping problem by adopting an approach based on the proxy design pattern, which is an object-oriented design technique that presents an object at one location to an application running at another location. "This is in complete contrast to what everybody else is doing, trying to map relational tables to Java objects," claimed Sabharwal. "What is unique about the use of the proxy design pattern is the application of the technique to databases."

WDO runs on Oracle8i and higher, and any platform that supports Java. It is available now and is priced at $7,500 per developer seat and $5,000 per CPU for the Java runtime libraries.

Software Design Automation (www.sdacorp.com) was founded by Sabharwal and is self-funded, with WDO in the works for the past four years. ■

MOBILEUM SERVER WORKS WITH OTHER WEB DEV TOOLS

Developers can now use existing Web authoring tools to create, test and deploy enterprise-class mobile applications on Mobileum Inc.'s newly updated wireless application server.

According to the company, Mobileum 2.0 now integrates voice and data functions, and includes an end-user location-based integration service. Further, the company claims that developers can develop wireless applications for Mobileum using off-the-shelf Web development tools such as Adobe's GoLive and Macromedia's Dreamweaver.

Mobileum 2.0 is available now and is priced from $35,000 for 25 to 50 users, to $500,000 for up to 1,000 users. It runs on Unix and Windows, and is integrated with Java and J2EE.

"Developers don't have to purchase proprietary tools because they already have them," according to Mitch Bishop, vice president of marketing for Mobileum (www.mobileum.com).

Mobileum includes a multichannel presentation server that automatically translates HTML code into device-specific protocols and languages.

Mobileum 2.0, the company claims, also combines voice and data capabilities to enable such features as prerecorded audio help and instant access to customer contact centers. "There are millions of wireless devices out there, most with capabilities for only voice or data," said Bishop. "Why not integrate them and use both?"

–Christina M. Purpi

UML 2.0

◂ continued from page 1

turing the architecture of the language so that it is easier to understand, implement and extend while preserving the end semantics; and providing extension mechanisms and profiles that are consistent with the metamodel architecture.

The superstructure RFP seeks to enable component-based development and the specification of runtime architectures; clarify the semantics of the generalization, dependency and association relationships; support encapsulation and scalability in behavioral modeling, in particular for state machines and interactions; and remove restrictions on activity graph modeling due to the mapping to state machines.

The semantics RFP asks for a definition of semantics that will enable specification of the structure of actions on a UML State Chart and the operations on a UML Class Diagram.

Rumbaugh concluded that while UML 2.0 is tentatively scheduled for release in early 2002, a late 2002 release was not out of the question because "there will be so many involved that it will take a lot of consensus-building to do. Any new ideas must be well justified." ▮

SOAP 1.2

◂ continued from page 1

SOAP 1.2 fully resolves envelope stability. "We can build applications that work against each other without fear of the SOAP envelope changing," he said, adding that 1.2 could now provide corporate interoperability and stability within the SOAP envelope.

The XML Protocol Working Group also released an XML Protocol Abstract Model that describes how the SOAP protocol might be designed at an abstract level. Hale said, "There is much confusion right now about the protocol stacks, such as workflow, data exchange and transport layer, and the boundaries between the different layers and stacks get confused. The SOAP abstract model separates business workflow from the correlation of messages that SOAP provides at the transport layer."

He said the abstract model makes clearer where these procedures would go online. ▮

It's Good GNUs for .NET

BY ALAN ZEICHICK

On the heels of ECMA's approval of Microsoft Corp.'s C# language and Common Language Infrastructure, two organizations have stepped forward to offer open-source implementations of those specifications.

Free Software Foundation Inc., in conjunction with Ximian Inc., has launched the Mono Project, which aims to offer a C# compiler, a CLI-compliant Common Language Runtime just-in-time compiler, and a suite of class libraries. According to the FSF (www.gnu.org), the goal is to let developers run .NET applications on any Mono-supported operating system, including Linux and Unix, in addition to Windows under .NET.

The affiliated DotGNU Project, also from the FSF, is designed to enable open-source-based decentralized services and authentication, comparable to Microsoft's HailStorm Web services. No time line was given for initial releases of the Mono or DotGNU software. ▮

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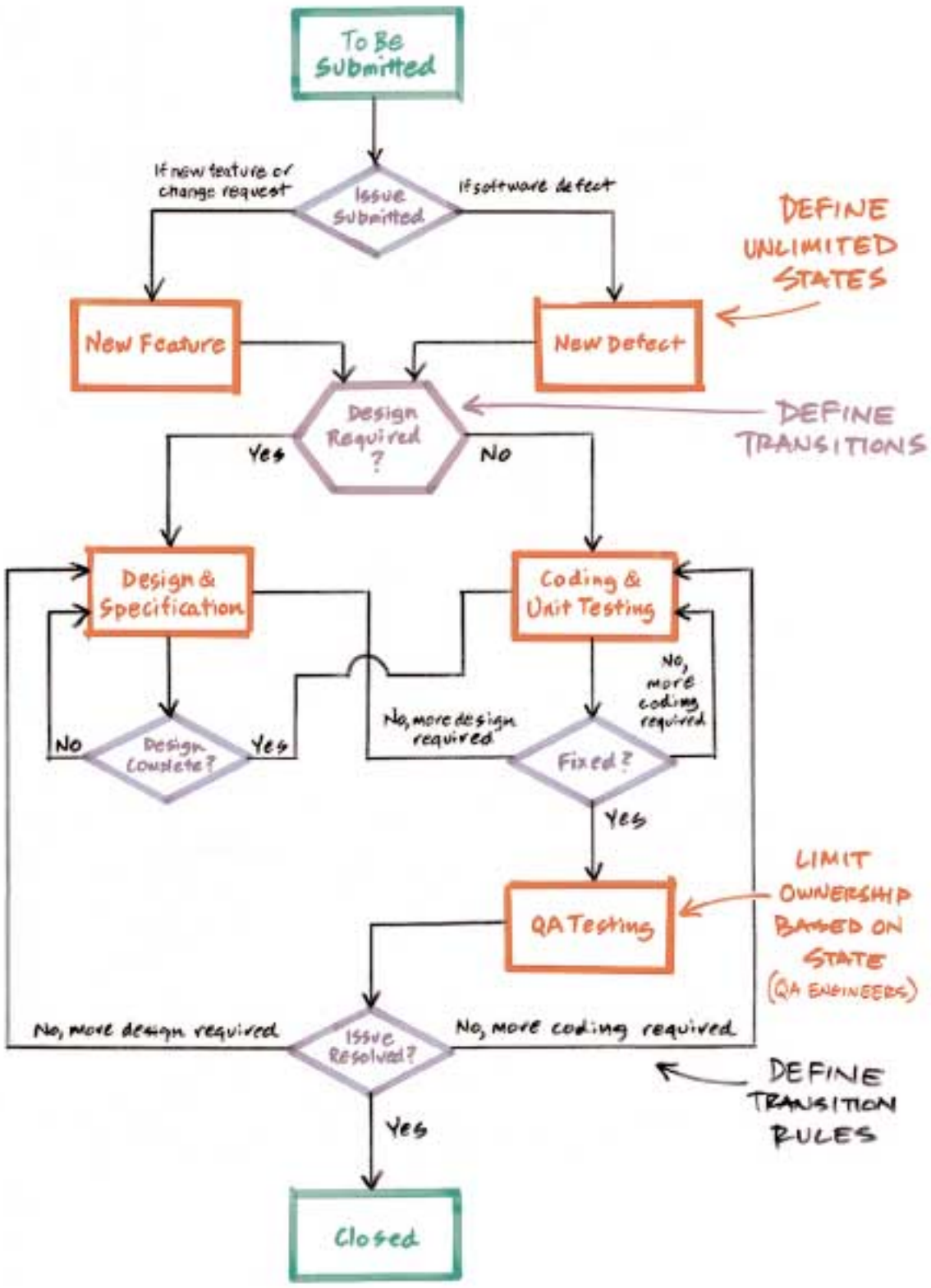

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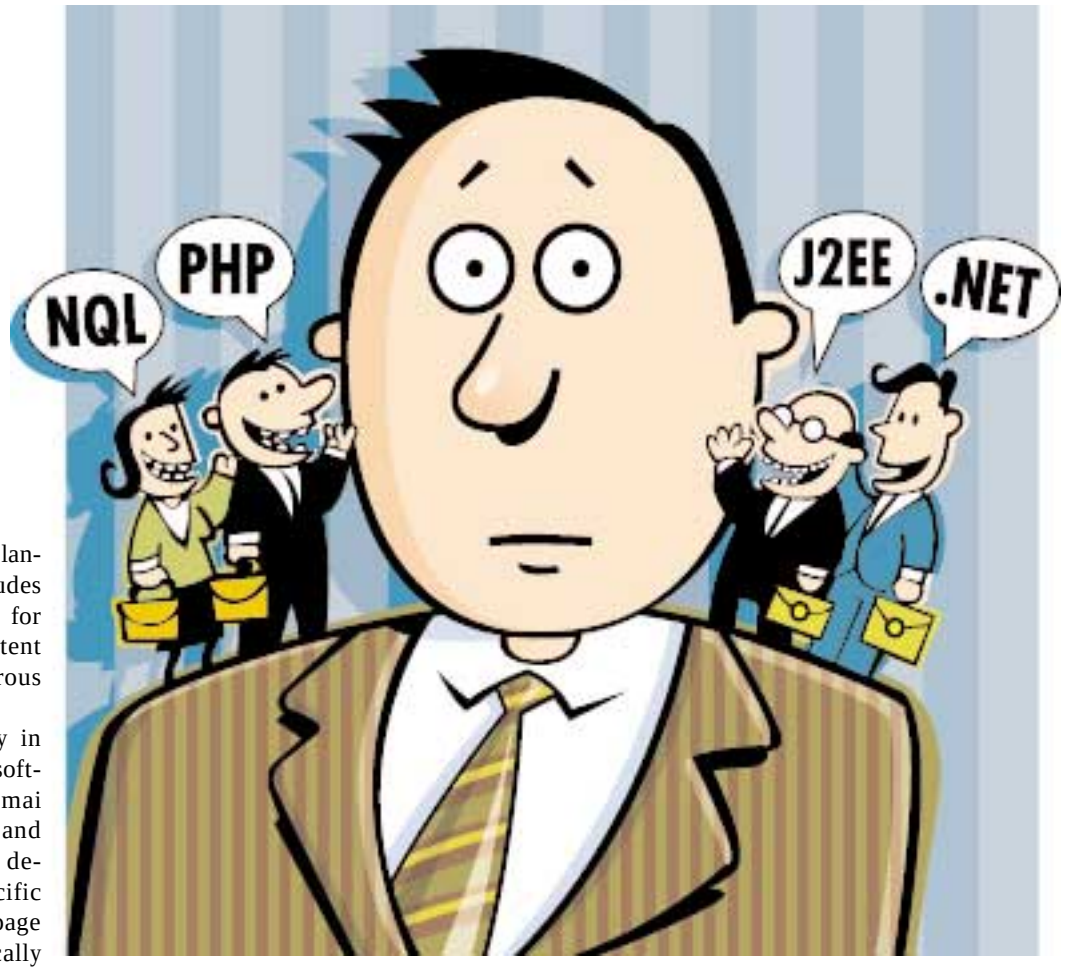
Leading Edge or Bleeding Edge?

New languages, tools for Web applications create opportunities but can cause developers pain

BY ALYSON BEHR



The desire among Web developers to create a more reliable and better-performing Internet has become more energized, even as the debate over where the real pain and opportunities lie in Web content form and delivery has intensified. Predictably, the effort to deliver new forms of content has nurtured the emergence of a cadre of development tools, technologies and scripting languages and has given even more options to already information-overloaded Web developers.

PHP is easy to learn and doesn't require much coding, says Symblaze's Dischler.

In addition to XML, some of the most promising newer choices are Network Query Language (NQL), a language similar to SQL that acquires, transforms and delivers data across networks using significantly fewer lines of code than other languages; PHP 4.0, a free server-side, cross-platform, hybrid, embedded HTML scripting language; and Edge Side Includes (ESI), a markup language for dynamically delivered content that's backed by numerous major players.

ESI, announced jointly in April by content-delivery software manufacturer Akamai Technologies Inc. and Oracle Corp., lets developers tag specific sections of a Web page as being dynamically cachable or noncachable due to content on the page having been personalized. ESI also facilitates the development of Web applications once and gives developers the ability to choose at deployment time where the application should be assembled, thus reducing development time and deployment costs. Delivering dynamic content from the edge of the network is a technological challenge, but moving database and application logic from the data center to a distribution point closer to the end user may bring significant performance improvements and cost efficiencies. According to Oracle's tests, ESI allows a Web server to handle 85 times as many users.

NQL Solutions Inc. describes NQL as a short scripting language that lets developers filter data and deliver it to its destination, regardless of whether it's to an Excel file, desktop or handheld device. Developers can select a Web page, find objects of data on the page with matching content patterns, communicate with databases and directory services, scan newsgroups or take XML data and output it to databases. The company says that the Enterprise

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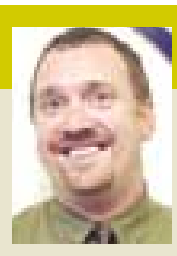
LATCHED ONTO J2EE

Kevin Carlson, Viant Corp.



With five U.S. offices and one in London to keep in touch with, Viant Corp. technology discipline leader Kevin Carlson has his hands full. Viant, a Web development and intellectual asset management company, was founded in Silicon Valley in 1996. Four-and-a-half years later, the company (www.viant.com) has chalked up a client list that includes Compaq, Fortunoff, Media Metrix, Polaroid, Radio Shack and Schwab Institutional, just to drop a few lightweight names.

SD Times: Which technologies have you looked at for deployment on your enterprise clients' sites, and which have you ended up selecting?

Kevin Carlson: I'd like to focus on application servers for just a moment. We've done work with all the major application servers: iPlanet, Dynamo, BEA's WebLogic, IBM's WebSphere…all of those products are moving along toward the J2EE standard, which is something we've really latched onto. The main reason for that is that the tool set it gives you is so much more robust and so much more scalable and expandable than anything else that is out there. It's not a proprietary solution in the sense that only one vendor supports it. Every single vendor that I mentioned with the exception of Microsoft supports J2EE, and I see the two current front-runners as being WebLogic and iPlanet.

Give me an example of where J2EE is superior to Microsoft's .NET.

There are a lot of very smart folks working on J2EE, just as there are working on Microsoft's .NET strategy. But you look at the two, and you look at the installed base and what the products themselves are capable of doing—I can write a J2EE application and run it on NT, then port it over to Linux in a matter of hours. That's not going to happen with Microsoft .NET. So to really give our clients the best flexibility in a platform and also to give our staff, our developers, the most applicable skill set, we've made that choice. If we were .NET, we'd have to do Microsoft engagements; if we go J2EE, we can write to four or five different platforms.

What do you think of PHP, and where do you think it's headed?

PHP is pretty much just another scripting language. I think it's a pretty good one. What I think is more important about any of the scripting languages out there now is that there needs to be a clean separation between what the presentation code does and where the business logic lies. We just completed an internal project using PHP and Linux 6.2. It's been a really big success for us in supporting our internal development community. It was nice, but the same problems we found we were facing there were the problems we'd face anywhere. It really comes down to architecture, but I don't think that in and of itself it's so different from any other technologies. The most different thing about it is that it is open source so people can get in and look at the code, so it's a really good learning tool. It's going to have a tough time beating out ASP; in other words, it'll probably be the Apache of scripting languages.

–Alyson Behr

Java: A 'Solid Language' Behind Work

Web developers cite scalability, platform flexibility

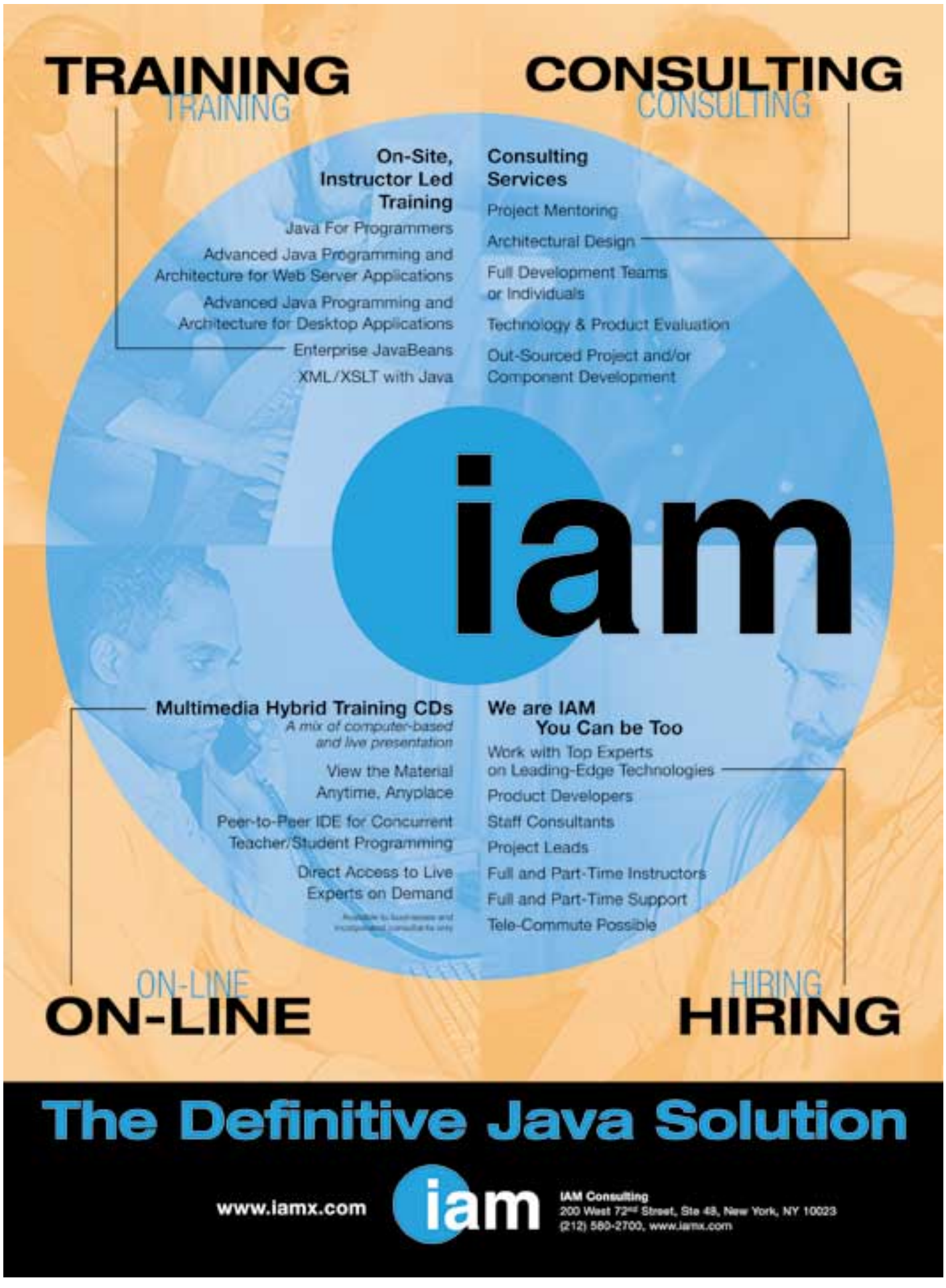
BY ALYSON BEHR

With Java arguably becoming the environment of choice for corporate Web development, it's inevitable for Java developers to compare the recently released free Java 2 Standard Edition 1.4 Java development kit with J2EE as well as with other development languages.

Robert Emmert, president of Aurora Technology Associates, an enterprise Web development company, advocates the use of Java in enterprise Web development because of its ability to run on the majority of platforms and its scalability. According to Emmert, "One of the main reasons we migrated toward Java and J2EE over some of the other alternatives like CGI or Perl is that it gives us a framework to do solid, quality development. We like having the structure of a solid object-oriented programming language behind our work." Alec Lee, senior architect at Aurora, added, "You're really getting a lot more with Java than just a computer language regardless of which JDK you work with. J2EE contains the parts of the Java API that allow us to do useful things from an enterprise standpoint, but J2SE 1.4 gives you the core language, socket communications, handles zip files and has all the GUI frameworks built in." Lee pointed out that while J2SE is free, there are several parts of J2EE that are free as well. "It's only when you get to the application server level that you're looking at Enterprise JavaBean (EJB) containers where most of the market is handled by commercial software. Even then you can find those free."

Kevin Carlson, technology discipline leader for Viant Corp., a multinode Web development company, said, "With [J2SE], there are a number of tools missing. First and foremost, some of the message queuing technology and Java transaction servers are missing. It's just a lighter-weight version." According to Carlson, there's potential for confusion with application system and error logging. He admitted he hasn't had the chance to look at all of the J2SE components but said, "there's a new, very-well-thought-out tool called 'Log For J' out that's integrated with the Jakarta Open Source project, and the 1.4 JDK includes a logging tool as well. I think this could cause confusion. Do we go with the de facto standard of the Jakarta project or do we go with this brand-new thing?" He noted that Viant had some clients that examined 1.4 and decided not to use it because they found it caused conflicts between some of their internal standards. He believes that over time the two logging tools will come together because of the strength of the Java community.

In fact, the Java community is one of the primary reasons Java both as a language and as a platform has become the development force it has. Carlson said, "One of the nice things about the community as a whole is that they really have the best interests of the developers at heart. They try to make things work well—architecturally make sure they're very sound and easy to use." ■



LEADING EDGE

◂ continued from page 33

Edition communicates using Wireless Application Protocol (WAP), Simple Object Access Protocol (SOAP) and Open Financial Exchange (OFX) protocols. The OFX protocol is used by financial institutions to exchange documents among home customers across an online link and among other financial partners. In addition, the NQL Enterprise Edition beta version provides support for credit cards, performing verifications, charges and refunds using CyberSource and CyberCash. It's designed as a code accelerator and can be called by many other programming languages. There are Microsoft and Java versions of NQL, and the company indicates that the Java version will run on Red Hat Linux. In addition, there is an ActiveX control interface, a C++ CNQL class interface, a Java NQL class interface; an ATL COM interface; and a DLL interface.

It's important to understand the existing technologies, says Symblaze's Horton.

PHP 4.0 is a scripting language that's a mix of Perl, Java and C that allows for significantly increased site functionality with only a few lines of additional code embedded in the HTML. Assigning the .php3 extension to the document requires the interpreter to recognize that the documents contain scripting and command the PHP engine to automatically run the scripts when the page is requested. Most developers are familiar with at least one of these languages, which makes PHP a quick language to learn and integrate into a development team. It's database-friendly, as it can connect to Sybase, MySQL and Oracle, as well as most ODBC-compliant databases. Mark Dischler, senior programmer for Los Angeles-based Web development company Symblaze, is an enthusiastic advocate of PHP. "It gives developers the ability to create dynamic content for Web pages, and the flexibility to link to databases and other types of Web logic and application components," he said. Dischler said that PHP was very easy to learn from a syntactical standpoint and prefers to use PHP over ASP and JSP, noting that "its functionalities for sending e-mail, uploading files and connecting to a database are really straightforward and don't require much code." As PHP has matured, it has delivered greater functionality. According to Dischler, who has used version 3.0 and is now working with the latest iteration, 4.0, "Improvements in version 4 over version 3 mainly have to do with session variables. It can store user information, which becomes helpful when we're implementing shopping carts and advanced portals."

PLAYING POLITICS

Developers are optimistic about implementing new technologies onto their sites; however they note that technology choices often are made for political reasons because of existing business partnerships, or for cost effectiveness. Symblaze COO Michael Horton said, "Part of our discovery process with a new client is to understand what technologies are already deployed. For instance, we found that one of our customers had an existing

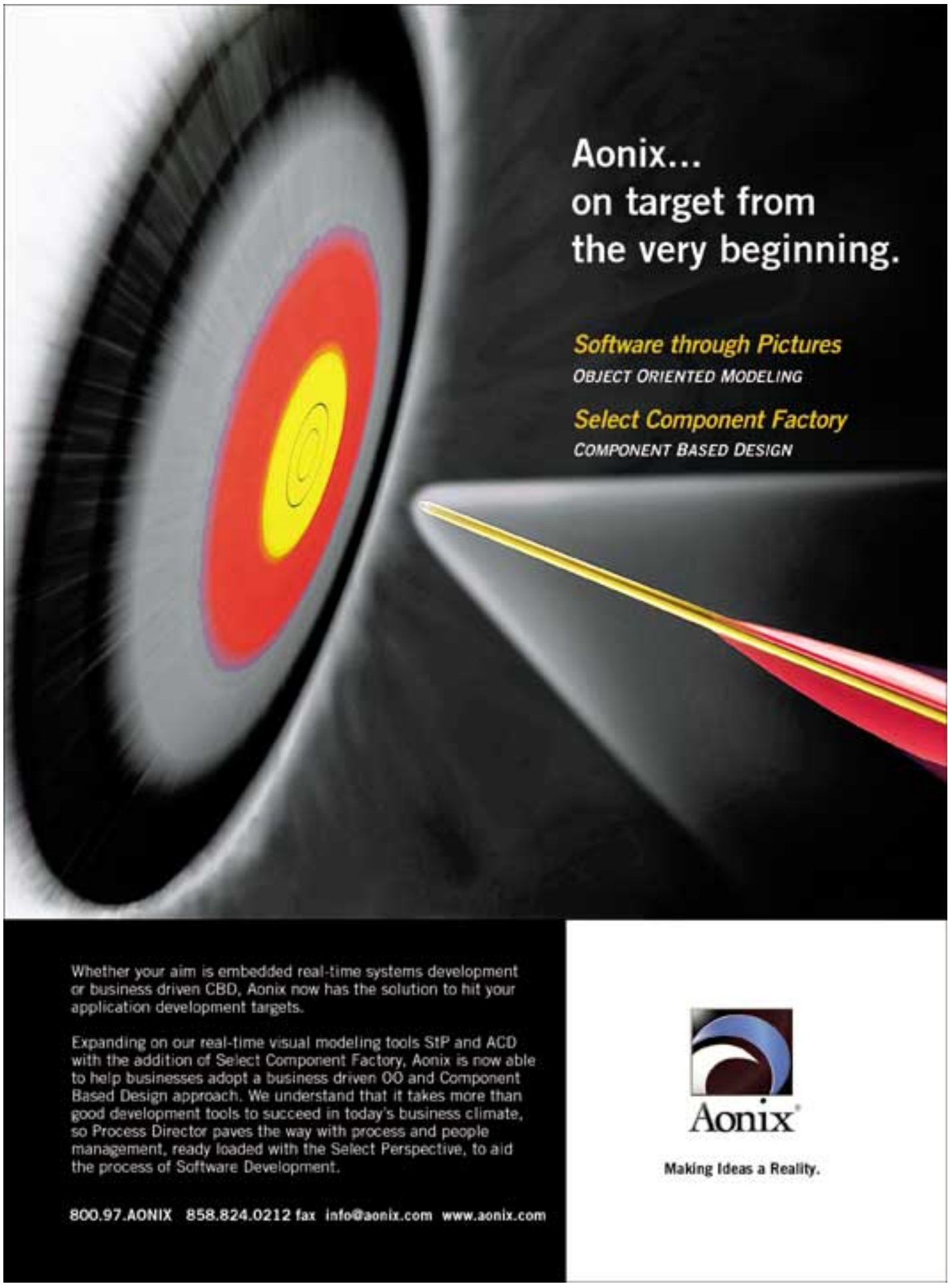
▸ continued on page 36

LEADING EDGE

◂ continued from page 35

Web site that was heavily deployed using Microsoft technology. Because of these existing relationships with Microsoft, it was very important for them for political reasons to adopt a total Microsoft platform. As a result, those types of decisions impact our choice of development environment."

The decision to migrate or rewrite a site from one technology to another must take a number of factors into consideration. Rewriting a site to deploy a technology that could marginally increase functionality can sometimes take months and hundreds of thousands of dollars out of development funds that may be earmarked for other site additions, and can result in less significant gains than if the original additions had been completed. On the other hand, sometimes it's necessary to rewrite because the technologies chosen for initial use when the site was constructed are now obsolete, have been discontinued or soon will be. Under these circumstances, developers say it's best to understand what type of data will be served up by the site and to choose a technology that has proven its longevity. Symblaze's Dischler noted, "If a client happened to have an existing Access database, then I'd definitely go with Microsoft technologies ASP and MySQL, but if the data only needed to be displayed and collected with a Web interface, then I'd go with PHP on a Linux box."



BACK ON THE FRONT END

While not emerging tools, Macromedia Inc.'s Dreamweaver and Fireworks products have become leading front-end design tools. Carol Mason, president of Los Angeles-based Web development company Web Site Sorcery, said, "With the exception of more complex graphics, which we use Adobe's PhotoShop to create, Dreamweaver's intuitive user interface, as well as its tight integration with Fireworks, provides all the capabilities we need to design and produce site front ends efficiently." According to Mason, "We adopted Dreamweaver after a lot of comparative research, including Allaire's Home Site, and found Dreamweaver much easier to get up to speed on. We can design on-the-fly, creating comps or for that matter the finished site, for our clients in less time than with other dev tools. As a result, we're more competitive and able to deliver the value-add of a richer site to our clients." In mid-June, Macromedia announced SiteSpring, a new product designed to manage the Web site production process. SiteSpring offers an integrated, server-based approach to collaboration, file management and client communications.

Macromedia's tools are good for everything except complex graphics, says Web Site Sorcery's Mason.

PERFORMANCE COUNTS

Getting information to the end user requires tight integration of delivery technologies, a well-architected information structure and concise, clean front-end design. Pull any of these building blocks away from the others and the site experience is less than optimal at best. Web developers need to decide which leading-edge technologies and tools to implement that will deliver performance but won't push them to the bleeding edge a year from now. ▮

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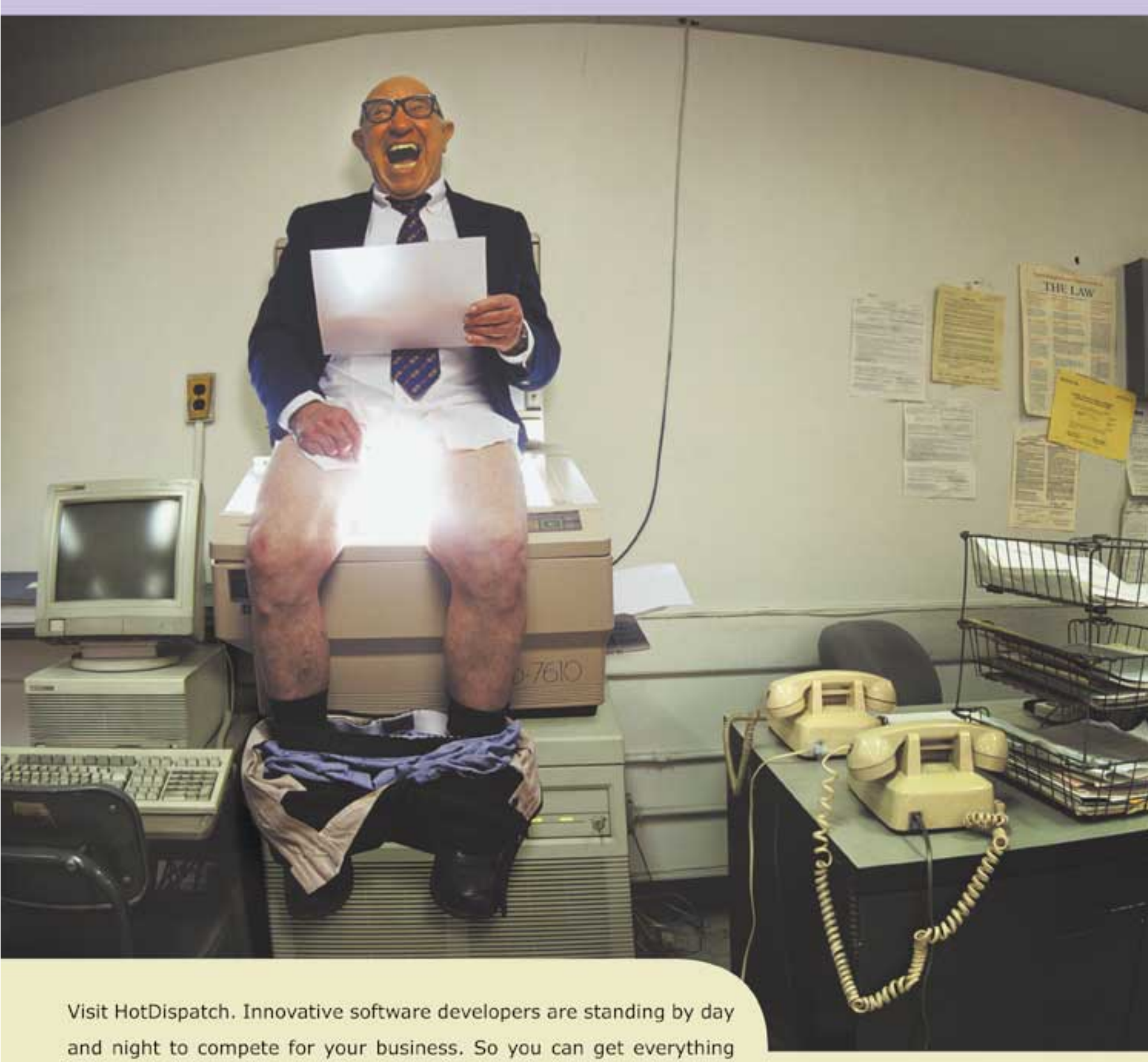

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EDITORIAL

Don't Let Self-Policing Pre-empt a Fair Settlement

Microsoft Corp. has wasted no time in reacting to the appellate court's reaffirmation that the software giant is not only a monopoly, but a monopoly that habitually abuses its power to damage competitors' businesses. While the court on June 28 vacated the idea of a breakup as a remedy, the official finding that Microsoft is an anti-competitive monopoly is a huge blow to the company.

Until Microsoft settles with the U.S. government, and with the other plaintiffs, it will have to tread warily. But of course, with Microsoft being Microsoft, it will tread warily in an aggressive manner, trying to redefine the debate according to its own vision of fair competition.

One emerging tactic is for the company to demonstrate that it can police its own activities by unilaterally curtailing specific anti-competitive business practices. Through those demonstrations, we would guess that Microsoft will try to argue that entire categories of business practices should not be included in the ultimate settlement.

For example, nearly coincidentally with the court ruling, Microsoft announced that it was holding back a controversial Internet Explorer 6.0 feature called Smart Tags. With Smart Tags, Microsoft's browser could scan a company's Web pages while its customers load them into IE—and insert annotations, references and embedded links to destinations of Microsoft's choice into the content.

Note that Smart Tags aren't dead: A version of them lives in Office XP, and when announcing that they were being pulled from IE 6, Microsoft merely said that the technology wasn't ready, not that this initiative was being abandoned. Smart Tags will be back.

Another example: In mid-July, Microsoft relaxed some of its OEM-related Windows licensing restrictions. Systems vendors, such as Compaq, Dell and HP, can now choose to remove the menu items and icons that provide access to Internet Explorer. OEMs also will be allowed to preinstall additional software packages on new PCs and place those application icons on the Windows desktop.

Sound like good news? In the short term, yes. In the long term, it's bad news if Microsoft succeeds in getting issues like intrusive browser extensions and anti-competitive OEM contracts off the negotiating table. Unless such business practices are included in the settlement, there's nothing to prevent Smart Tags from reappearing, or to stop the company from unilaterally reinstating restrictive provisions in future Windows OEM licenses.

It will be months or years before there's a settlement in this case. As the negotiators hammer out the details in smoke-filled Washington back rooms, we should expect the company to continue this tactic of announcing industry-friendly initiatives every few weeks. Is this truly a new, improved Microsoft?

Perhaps, but forgive us for being cautiously skeptical. A company with the financial clout, market share and track record of now-proven anti-competitive monopolistic practices that Microsoft has can't be trusted to police its own future behavior. ▮

GUEST VIEW

UNLEASHING THE POWER OF J2ME

As more and more companies look to implement a wireless strategy, choosing the right approach is crucial. In the world of wireless, selecting the right approach means selecting the right platform. A clear, pervasive standard has yet to establish itself in the wireless world. Several players have been vying for the top spot, yet no one has clearly prevailed. There is one platform, however, that is gathering strength in Japan, Europe and now in the U.S. When evaluating a wireless initiative, it is important to recognize this sleeping giant: Sun Microsystems Inc.'s Java 2 Micro Edition, more widely known as J2ME.

C. ENRIQUE ORTIZ

J2ME, as the Java platform specifically designed for portable computing, allows for the creation of a new breed of mobile applications known as "thick clients," an environment for mobile enterprise-class applications. These applications provide sophisticated navigation, enhancing the mobile user experience. Interaction time is much faster with J2ME applications, as it uses bandwidth efficiently. These features, combined with J2ME's scalability and device compatibility, greatly enhance the user experience, giving J2ME the capability of transforming wireless computing in the enterprise, ultimately propelling the wireless world into the next generation of advanced mobile computing.

In order to establish the foundation for this next generation, technology managers must evaluate the mobile need within their enterprise. The first step of a wireless development effort is choosing applications that are most valuable to the enterprise. Do employees need remote access to expense reporting? Is there a need for a mobile sales force automation application? Once the applications are selected, the evaluated mobile vision can be converted into reality. With J2ME, thick-client applications can be created to custom-fit the company's needs. In addition, because of its portable platform, which enables write-once, deploy-anywhere applications, J2ME is easily scalable to meet any enterprise's needs.

Scalability is just one of the many benefits that position J2ME as a front-runner in the race for a mobile standard. Perhaps its biggest attribute is that J2ME applications are stored right on the device, allowing for stand-alone offline applications. Users can compute on a mobile device using the Java-based applications, even when the user may be out of a coverage area or the device may not be connected. For example, a mobile user with a J2ME expense reporting application could work on an expense report using a cell phone without being connected to the server. This enables users to work on corporate data without burning precious airtime minutes, making this mobile solution cost effective.

As well as being cost-effective, deploying a J2ME solution is very time-efficient. As stated earlier, J2ME enables write-once, deploy-anywhere applications. This transcendent quality decreases development and deployment time. If an application written in C++ were deployed, it would take much longer, as the application must be deployed on each device.

Device compatibility is another of J2ME's strengths. In the world of J2ME, all Java-enabled devices can communicate with one another, regardless of the type of device. This means that PCs can talk to PDAs, and PDAs can communicate with cell phones and so on, breaking down barriers and creating transcendent mobile computing with smart devices.

J2ME also has strong end-to-end security and synchronization features. The small-footprint SSL implementation allows end-to-end security without translation at the network provider. This allows for a secure access to corporate servers behind the firewall.

Still, though they do not eclipse its benefits, there are delicate issues that J2ME must overcome before it becomes the next chief mobile standard. Introduced by Sun in June 1999, J2ME is barely 2 years old—and as such, the technology is still in its infancy. The security features mentioned above are not currently native to the platform, and the user interface API, even though sufficient for most applications, is primitive. The lack of devices that support J2ME also has curbed its mainstream proliferation. Because these are all by-products of its infancy, the weaknesses are temporary. In addition, these issues are already rapidly changing. J2ME is gaining support from the likes of Ericsson, Motorola, Nextel, Nokia, Panasonic and RIM. In early April, Motorola and Nextel started shipping their first product line of Java-enabled handsets. And, this summer in London, RIM is slated to introduce a handheld device with J2ME capabilities. As these devices become more pervasive, so should this new mobile Java standard.

With 2.5 million Java developers ready to build full-featured, intelligent mobile applications, and with the commitment of companies like Motorola and RIM, J2ME should be considered an emerging standard for the new generation of smart wireless devices. It is poised to bridge the Internet world with the wireless world. As IT managers realize the potential that J2ME holds for the enterprise, there will be a stirring in the wireless industry as the sleeping giant awakes. ▮

C. Enrique Ortiz is vice president of development at AGEA Corp. Reach him at eortiz @agea.com.

A NEW WEB WATCH

Photo by Wayne Rash III

With this issue, Wayne Rash joins SD Times as our newest columnist. Rash's Web Watch will focus on how the latest Internet technologies, including Web services, affect large enterprises. Read it on page 45.

Rash, formerly managing editor/technology and events editor for CMP Media LLC's InternetWeek, has been a technology writer, editor and hands-on product tester since 1973, and has long been a regular contributor to Byte Magazine and The Washington Post.

LETTERS TO THE EDITOR

OPEN SOURCE DIDN'T KILL EAZEL

I'm the former product manager of Nautilus at Eazel, and found J.D. Hildebrand's column ["Cleaning the Eazel," July 1, page 49] very insightful on the condition of the Linux/open-source movement. I hesitate to say Linux/open-source "market" because Linux and open source don't necessarily define a market; at least no more than you can say that there's a "spatula market" in the restaurant industry. Linux and the open-source methodologies are tools that can be melded effectively into a profitable business strategy, just as a spatula is a tool a chef uses to make his cuisine, and hopefully a profitable restaurant.

This, in fact, is where I believe most of the articles on Eazel fail to recognize that Eazel's business model didn't fail outright because of its open-source and Linux roots, but that the plan didn't have time to gestate beyond the focus placed on the tools and technology. The business strategy for Eazel was to make valuable Internet-based services that anyone could take advantage of, but that also provided a unique experience for open-source software (like Linux). While our software client drove forward with an innovative approach, the services were the "gold nuggets" that never really were able to be cashed in. The plan ultimately fell apart when funding couldn't match the long-term goals of the project (several years out), and too many short-term goals were being compromised.

I enjoyed your commentary on the stories and journalists that "pegged the death of Linux" on the desktop to Eazel, and I feel you made a very good case why life goes on after such a situation. However, I hope someone follows up to make the story clear beyond the "facts" that most of the other journalists have promoted to catastrophic tales of woe for the Linux/open-source movements.

There really is a market for the services (both consumer and enterprise) that Eazel planned on delivering, and the open-source approach was a means to an end, not the basis of the plan. That's the key portion of the plan no one questioned, and the truth that Microsoft will use to make .NET a success beyond the concerns of the journalists that the "boys up in Redmond" are trying to exert too much control over the business and consumer users of the Internet.

Ultimately, there should be more coverage of Linux/open-source empowering profitable businesses based on the actual service marketplace rather than on the "David vs. Goliath" tale of Linux versus Windows that is commonly told.

Brian Frank

SOLVING PROBLEMS, OR CREATING THEM?

Your [Nov. 1, 2000] guest editorial ["Where Is Legacy Renewal Heading?" page 24] suffers from one of the most common logical fallacies: It expects us to assume that the author is a disinterested "expert." The credit at the bottom of the article reveals a different truth. He is the marketing director for his firm. His article contains within it the underlying assumption of his firm: That COBOL is the language of the past and that the applications written in it must be somehow "renewed."

The truth is that, concealed behind the hype, most of the firms pushing renewal are selling a solution to a "problem" that they are creating. Not by writing the older programs, but by writing lots of articles about how badly businesses need to embrace their solution to "modernization." This firm evidently specializes in Java. So, the article recommends Java as a solution to all the problems of the business world.

The problem with this is simply that Java, C, C++ and most of the other "Latest and Greatest" languages will create more problems than they solve.

This article talks about the difficulty of extracting the business rules buried in 20-year-old COBOL code. It ignores the much greater future difficulty in *re*-extracting those same rules from Java or C even six months after the program(s) are written. COBOL was designed for one overriding reason: Prior programming languages were difficult to read. Once the original programmer was gone, his/her successors often had to do weeks, even months, of extra work deciphering the code in order to make changes as the business environment changed. COBOL was designed to overcome this difficulty by looking as much like English as possible in order to make programs as easy to understand as possible. And, by and large, the effort succeeded. COBOL programs are approximately 70 percent self-documenting. It is very easy to look at a COBOL program and determine what it does. The other 30 percent of the documentation is the more difficult question of why it does what it does. No computer language will ever be able to answer that question, of course, but that is a problem for someone else to tackle.

The point of all this is that before businesses jump too far into the shark-infested waters of e-business, they should ask the question: Is the sales pitch offering a solution to a *real* problem, or is this company a remora looking for an opportunity to drain a little corporate blood?

Jerry Masters

BRAND OVER QUALITY?

Regarding your story ["Apple Joins Mainstream With WebObjects 5 Server," July 1, page 1]: People and companies don't rely on good products but on products which they hear a lot about, e.g. IBM's WebSphere or BEA's WebLogic.

This is sad but true. If the good [products] would sell, we all would have BeOS or Mac OS X now. But most people work with Windows.

Turgay Coruh
IT Beratung & Entwicklung

INTEREST IN JEODE

In reading the July 1 issue of SD Times, I was surprised to see a story ["Jeode Gets CE Design Win, Finally," page 34] with the slant that our Jeode Java Virtual Machine technology "finally" got its first Windows CE design win after more than a year on the market.

The selection of Jeode technology for the Compaq iPAQ PocketPC is not Insignia Solutions' first Windows CE design win. In fact, Jeode has been chosen for more Windows CE devices than any other JVM on the market—the first being in February 2000 for the Olivetti Lexikon Linea Webphone.

Other Windows CE design wins that we have publicly announced include the Compaq iPAQ Home Internet Appliance IA-1 and IA-2, eMachines MSN Companion, Fujitsu PenCentra 200 pen tablet, Siemens SIMpad SL4 wireless Internet access device, Wyse Winterm terminals, Televideo TeleCLIENT terminals and Internet appliances, NCR point-of-sale terminals and Web kiosks, and Qubit Orbit Web tablet and Atom Internet terminal. Most of these devices are currently shipping with Jeode technology.

Counter to the quotation attributed to me, there has been great interest in Jeode technology by Windows CE device makers. In fact, we currently have more design wins on the Windows CE platform than any other operating system.

The real news about the Compaq iPAQ PocketPC design win is that it represents the first time a Sun-authorized JVM has been available for end users through a PocketPC device manufacturer.

Gary M. Katz
Senior Manager
Corporate Communications
Insignia Solutions Inc.

SUN SEES EMBEDDED LIGHT

I beg to differ with the assertion ["Java: And for My Next Act…," July 1, page 49] that Sun is not interested in seeing Java in embedded designs. The very existence of the Micro Edition proves it, and its popularity indicates a strong need. Further, is it not Sun's desire, and indeed its governing philosophy, to see Java running everywhere and in everything?

Gordon Nargle
JavaScape Ltd.

Andrew Binstock replies: You are quite right that Sun's J2ME proves its interest in the embedded space—an interest I acknowledge. What I should have been clearer in saying is that this market is not strategic to Sun. Sun sells servers, and to a lesser extent, desktop clients. The embedded space is simply an attempt to grab a share of set-top boxes and other embedded platforms. However, this attempt is tactical, not strategic, meaning that Sun's future as a company is not tied to success in this area.

CORRECTIONS

Analog Devices Inc. engineer Xavier Haurie was incorrectly identified in an article in the July 1 issue. In another article in that issue, Wyse Technology Inc. was misspelled.

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LARRY VS. LOU

The Java app server market is dominated by a single product: BEA's WebLogic—a product that's widening its lead over IBM's WebSphere. The rest of the market is following far behind these two players, though some vendors are beginning to make their moves. None of them can entertain serious hope of winning or placing; all they want to do is show. It's a race for the bronze. With so many entrants, many vendors will be disappointed. And if they don't find specialized niches to fill, they will be culled. Some already can hear the grim scythe approaching.

Even so, the Java app server market continues to attract new players. I believe this is almost entirely attributable to the kinds of numbers posted by BEA, which is one of the few companies these days with consistent good news in sales. WebSphere's numbers are healthy as well, which suggests that the market is expanding. And given how few sectors can show growth at all, the good news was bound to attract entrants. Especially since the bar to entry is not particularly high.

The most recent and most ostentatious entry is Oracle's Oracle9iAS app server, rolled out at this year's JavaOne show, a fortnight before the rollout of the company's Oracle9i database. (For purposes of clarity, Oracle9iAS refers to the app server, while Oracle9i by itself refers to the database.)

Oracle9iAS is a J2EE-certified app server. The EJB container was purchased by Oracle and fashioned into the application server by a series of extensions. All the regular extensions (JSP, JMS, JTS and most other J*xx* acronyms) are present, as is a set of features meant to distinguish the product from its competitors, such as Oracle-specific features like PSPs. Old DOS gurus will recall the PSP (program segment prefix) as a reserved area of RAM that preceded a loaded program and contained stray data fields needed for program execution. It was a kludge carryover from the days of CP/M. Three-letter acronyms are being recycled. Oracle's PSP is the equivalent of JSP and ASP, except that PSPs use Oracle's PL/SQL to access data in, of course, Oracle9i. To this, Oracle added its own forms technology.

MIDDLEWARE WATCH

ANDREW BINSTOCK

This leads to my first observation about Oracle9iAS: It's closely tied to Oracle databases, in much the same way WebSphere is closely coupled with DB2. We'd expect a first release of an app server to be flagship-centric. But the complete absence of indicated future support for other databases suggests that Oracle might not be in the same race as BEA and others. Rather, it may be looking to sell Oracle9iAS to its installed base only. Granted that's a big installed base.

Having tied Oracle9iAS to its database, Oracle did nothing in a minimalist way. The app server supports a database cache, for example, as well as many tools you would associate with database engines: report services, ad hoc query and analysis tools, load balancing and the like.

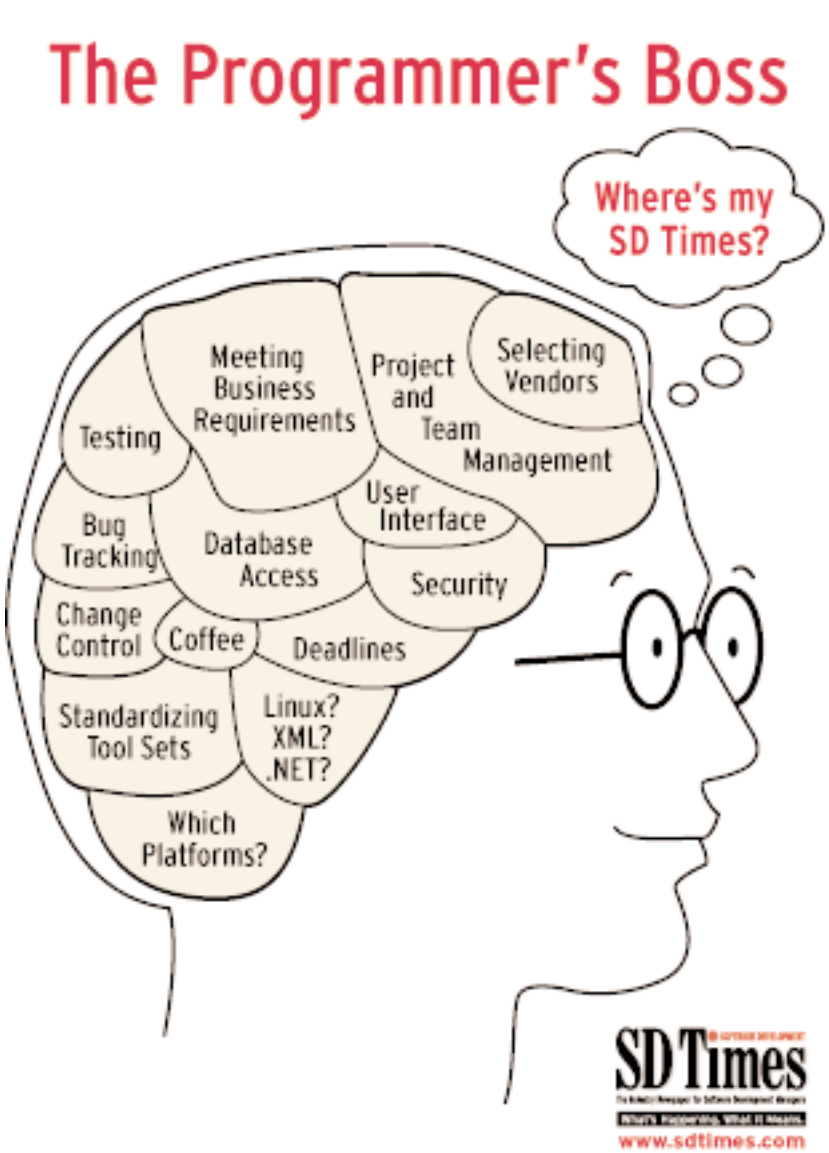
Separately, the product offers technology extensions that allow the app server to support voice and wireless and XML/Web services—which are three portals typically associated with WebSphere.

Which brings me to my second observation: Beyond Oracle's installed customer base, Oracle9iAS's target is IBM, not BEA. This strategy has some chance for success. WebSphere is not greatly loved. And a competing product from a company that IT satraps know well will indeed gain favor. But IBM won't likely be impressed. IBM has been doing app servers a long time and has an established reputation there quite apart from any connection to DB2. Meanwhile, Oracle9iAS is a spanking new thing, untested in the hard world.

Which brings me to my final observation about the announcement: Has Oracle ever had a major success selling a product not intimately tied to its database? Drilling further: Apart from financials, has it ever had success selling anything *other than* its database?

The conclusion I draw is that Oracle's foray into J2EE is a way of adding products it can after-sell to existing customers. The company is a bit defensive vis-à-vis IBM, especially since the latter's Informix acquisition. (The Oracle9i database rollout was all about how it stacks up against DB2, especially on clusters. Pricing—which was the real news—was barely mentioned, by comparison.) This gives Oracle one more tool to go head-to-head with Big Blue. It also helps keep in the fold customers who might be tempted to stray. From which, you can safely conclude that Oracle9iAS will have little visibility outside of its narrow targeted market. ▮

Andrew Binstock is the principal analyst at Pacific Data Works LLC. Reach him at abinstock@pacificdataworks.com.



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CONSTANT CHANGE IS HERE TO STAY

In his remarkable book "Aegypt," World Fantasy Award-winner John Crowley suggests that now and then the world undergoes unsuspected deep changes. An insight or observation rocks us, and from that day forward the world works differently. The earth circles the sun instead of vice versa. Parents' characteristics are inherited by children according to predictable genetic laws. Diseases are caused by invasions of tiny animals in the blood. Columbus gave us a round world to circumnavigate; Freud gave us a subterranean world to spelunk; Darwin gave us a mechanistic world of competition and demand.

What if, Crowley asks, the revolution is not simply a new way of understanding the world? What if the world actually changes to match our new way of comprehending it? Some ideas are so powerful they give us new eyes for seeing and understanding the past. Ideas can change history itself.

Just such a change must have rocked the software industry at the end of June, when crammed into two or three days were a whole year's worth of events.

Change No. 1: Microsoft is no longer being split up. The U.S. Court of Appeals for the District of Columbia reversed most of the Justice Department's victory over Microsoft in last year's antitrust suit. The appeals court slammed trial judge Thomas Penfield Jackson for his public statements and interviews with the press, which combined to give the proceedings "an appearance of partiality," the court said. The case was handed back to the district courts for a new ruling on remedies for the minor anti-competitive counts that remain valid. At press time, Microsoft and the Bush administration's business-friendly Justice Department had signaled that they were willing to negotiate a slap on the wrist for Microsoft, but no arrangement had been announced.

OPEN SOURCE

J.D. HILDEBRAND

Change No. 2 comes to us from VA Linux. Remember them? A couple of years ago, they held the largest initial public offering in American history. Open-source hackers like Eric Raymond became stock-option gazillionaires. The company gobbled up Andover.net, the publisher of Slashdot and operator of the Thinkgeek e-commerce site.

VA Linux looked like one of the open-source business' safest bets because it wasn't counting on speculative revenues from support to subsidize a give-away-the-farm software-sales strategy. VA had solid revenues from the sale of hardware—typically Web servers preconfigured with Linux and open-source apps.

In a surprise move, VA has now announced that it will shut down its hardware operation. Now that Compaq, Dell and IBM are selling Linux-equipped PCs and servers, the competitive situation has squeezed VA out of its boutique position. So the company will take massive write-offs, lay off a third of its work force, burn through accumulated cash, and focus on what it has identified as the strategic parts of its business: OSDN (basically, the Andover.net Web properties); custom development and consulting; and SourceForge OnSite, an application that supports distributed software development behind corporate firewalls or on the Web. According to the news release in which it announced its new strategy, "VA expects that SourceForge OnSite will generate the majority of its revenue, and have financial and operational characteristics typical of a software application company."

Change No. 3: Sun dumped the open-source version of Solaris.

You had to see this one coming. Sun's commitment to the open-source world has always seemed halfhearted. Its decision to create the open-source Solaris 8 Foundation source program came in the midst of criticism from the press and the Linux community. So although Sun will continue to make Solaris 8 Foundation available in free binary form, the source will no longer be available. Amazingly, Sun reports on its Web site that only about 2,000 individuals acquired the Solaris source.

Change No. 4: Corel showed a profit.

Corel reports that it made an operating profit of $2.3 million on $36 million in revenues for the three months ended May 31. Who would have guessed the company could achieve such a turnaround? Not me.

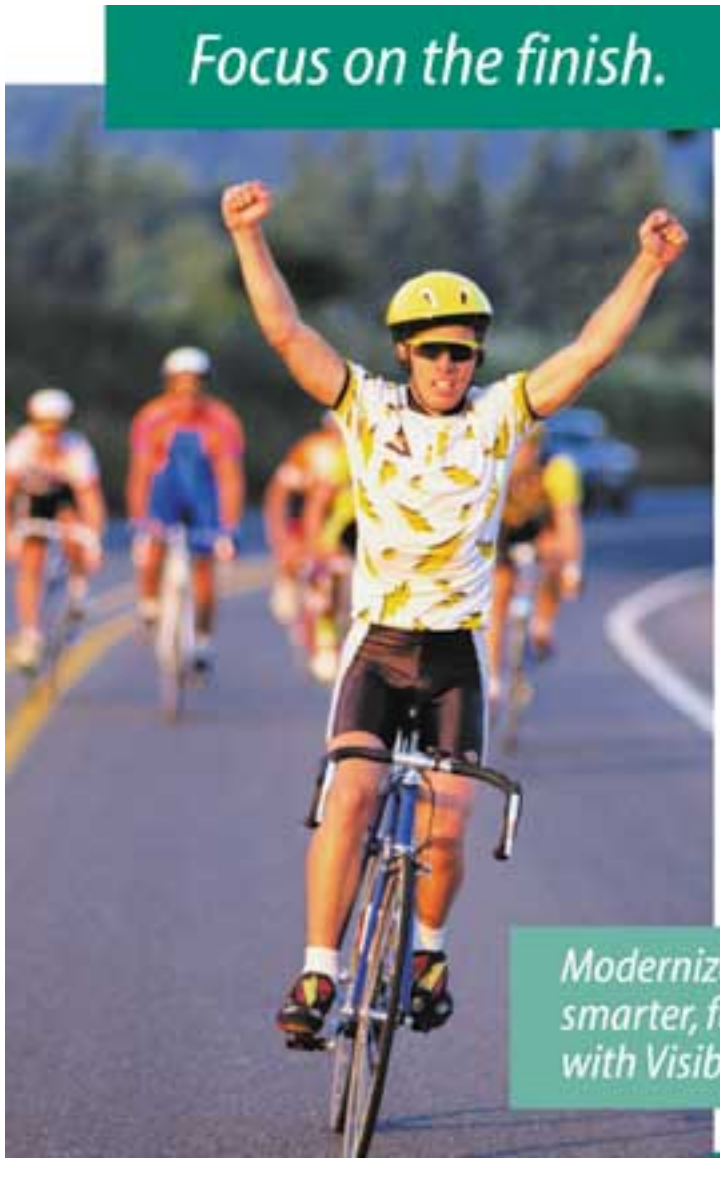
Change No. 5: Caldera switched to per-CPU pricing.

When you base your business on Windows 2000 or Windows XP, your license arrangement specifies how many computers you may run the software on. You want to run more copies, you acquire more licenses—that's how the proprietary closed-source software world works. Linux has never been like that. Download a distribution or acquire a CD, and you're free to install it everywhere. It is this aspect of Linux that makes it so difficult for analysts to estimate market penetration.

Caldera announced the new licensing strategy simultaneously with revealing a loss of $11.7 million in the most recent quarter.

Looks like it's going to be a long, hot summer. ▮

J.D. Hildebrand is the former editor of such publications as Computer Language, Unix Review and Windows Tech Journal. Reach him at jdh@sdtimes.com.



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UNHAPPY WITH WEB SERVICES

I took a sip of the excellent merlot, then settled back to listen. I was talking to the CIO of a major corporation over lunch at a swanky New York restaurant, and he wasn't a very happy camper. In fact, he was one very disappointed manager.

"We really wanted Web services to work," he explained as he poured me some more wine. "In fact, we designed the entire project specifically for Web services from the very beginning."

I asked him what exactly didn't work. He sighed, then pushed the perfectly prepared rib steak around on his plate a little. It was getting cold, and he'd only taken one bite. "Actually," he said, "it did work. We just weren't happy with the results."

He explained that by the time the project was complete, it performed exactly as it was supposed to perform. The project met all the specifications, it ran with the desired performance, and it worked with other software just as it should. I wondered aloud what the problem might be. After all, there are an awful lot of development projects out there that don't manage to do all that.

"We'd hoped that Web services would allow us to develop faster, with more efficient staffing, and that when the project was complete, we'd see some operational advantages," he explained. "We didn't see that."

As the executive explained things, the project took just as long as it would have taken to develop in a more traditional Web server environment, it cost just as much, and it ran just as well. "There simply were no advantages to making the change," he said. Then he thought and added, "You'd think that with all the hype about Web services, there would be at least some difference." He pointed out that the company had even gone so far as to use SOAP and XML just to ensure that the services would appear as they should to the outside world, and that all the standards were met.

Apparently in his case, there wasn't any difference. We talked some more, and the longer we talked, the more obvious it became that his disappointing experience wasn't exactly the fault of Web services. On the other hand, Web services had a lot to do with it.

The biggest problem was that the executive didn't really realize what his company would gain from doing its development using Web services. That's not too surprising, since a lot of managers really aren't sure about that one. In fact, there's no real agreement among vendors of what constitutes Web services. Second, while a plan that uses Web services certainly impacts on the development decision process, it's not magic.

In this case, the executive didn't really appreciate that some of the primary benefits are indeed ease of development and a speedier development process, but that implies that the company has built a library of reusable code, and that it has fully implemented XML and related standards into its e-business, not just implemented it in a single area. In addition, the idea behind the standards inherent in Web services (or XML for that matter) is to produce an environment that is easier to work with further down the road, when additional functions have to be added to a server, or a business partner needs to engage in data interchange in some way.

In other words, Web services are not a magic bullet that somehow makes development a no-brainer. Rather they're a way to make your company's environment more rational. But you'd never know that from the way people talk.

In other words, Web services are a lot like the other development ideas of the moment that grasp the imaginations of companies, but which aren't exactly what everyone thought they were. XML is a good, closely related example. It's a standard that everyone loves, and as a result, everyone has his own version of the standard. Of course, this means that XML is being specified by all levels of the corporation, from the CEO on down. And of course, none of them realizes that it's a standard only in the sense that everyone uses the same three letters to describe a set of mutually exclusive functions.

So now the focus is on Web services. Depending on whom you listen to, they can be almost anything from a distributed object or service model to something that looks like an ASP model. What does this mean to your development? That's a good question, and one whose answer you should make sure you agree on before you start to use them in your development project.

More important, you need to know how to manage the expectations of your senior executives when they begin to bandy about those cool new terms, like Web services. I'll bet the IT manager who works for my lunch partner wishes he'd done a better job of explaining what the term Web services really means. Assuming he's still the IT manager, that is. ▮

Wayne Rash is a technology journalist and consultant. Reach him at wrash @mindspring.com.

CAREFUL WHAT YOU WISH FOR

What was better: Seeing Darth Vader stride through conquered spaceships crushing Rebel soldiers' windpipes with his mind? Or, seeing him flat on his back, unmasked and sporting that attractive turnip-in-a-microwave face?

I'm the Microsoft-watching columnist for this paper, so it's my duty to write a column on the verdict even though it is the most written about technology topic of the past seven days, and presumably you're sick of reading about it.

Basically, as far as I'm concerned, Microsoft president Steve Ballmer can act as confident as he likes: Microsoft lost and it lost huge. While Ballmer's assertion that a monopoly isn't "…illegal in and of itself" may be true, Uncle Sam has pretty much zero history of leaving monopolies in peace—especially not monopolies that have been convicted of abusing their monopoly power, while being simultaneously loudly eviscerated in the press. There's no political future in leaving such a monopoly alone.

Not to mention that Redmond has inexplicably been providing the legal set with ever more ammunition. I mean, take a look at their "smart tags" technology. If they did think they were fooling anyone, I'm depressed; and if they didn't, I'm still depressed, just for different reasons. Then there's the continued bundling of Internet Explorer with Microsoft's operating systems, their new policy of requiring Passport authentication for certain (admittedly rumored) operating-system-centric features, and pretty much the entire concept of HailStorm if it's not handled properly. Not a rosy picture if you're stuck trying to defend Microsoft.

So where does that leave Microsoft and its legions of happy Windows users, myself included? Frankly, worried. We may have gained some time before the legal community starts hacking into the software industry, but it's not far off. Their prime "remedy" is still to parse Microsoft into basic hemispheres, operating systems versus applications.

But will this actually help? The reason that breaking up AT&T worked in the same fashion is because it forced the individual pieces to begin competing with one another. Operating systems and application software vendors simply don't do that. Where's the long-term fix? Perhaps this would block some of Microsoft's ability to incorporate hooks in Windows that only its application software could exploit—but how would you monitor that? Proving even a single instance of this kind of misconduct would take years of legal (and engineering) point-counterpoint analysis.

And that's the "good" remedy. Other solutions on the burner include breaking up Microsoft into even smaller pieces, and—a really crazy one—forcing Microsoft to release Windows as open-source software, while leaving Microsoft with only its application software profits. Frankly, that last one borders on outright theft. Sure, Microsoft has pushed far too hard with its anti-competitive practices, but the Windows operating system's source code and intellectual property still belong to Redmond. Forcing the company to just give it away because it has become too successful doesn't sound much fairer than what Microsoft is on trial for in the first place. Not to mention that I shudder to think what an uncontrolled open-source implementation of Windows might look like in a few years.

Reading some of the legal opinion (as it was translated for us lay techies) left me feeling vulnerable to the misconceptions of the legal community. One example was the ruling that Microsoft's Java Virtual Machine had a viable place in the marketplace because it was faster than Sun's. So what does that mean—if we develop a product that doesn't immediately exceed the performance of a competitor, it's not a legally viable product? Well, I suppose someone better go and arrest Steve Jobs.

It's been suggested that the only real remedy to The Microsoft Problem is to apply individual legal rulings to every type of licensing agreement that Redmond might enter into with other software vendors. I'll go with that one, though getting any traction on it in the near term isn't likely given that lawyers work by the hour. It could also seriously slow down the speed with which new Windows products roll out, both in and out of Redmond. But at least with this approach, you'll slow down Microsoft's marauding marketing minions and their block-bully negotiating tactics enough to give everyone a fair chance to play. And that can only do good in the long run. ▮

Oliver Rist is vice president of product development for rCASH in the REALM. Reach him at orist@mindspring.com.

PUT ON YOUR RALLY CAPS

The scene: summer, 1999. A high-tech worker lazes at the shore, drinks at the ready. Baseball on the radio. Cell phone at hand. An ocean breeze cuts the humidity, making for an idyllic afternoon. He flips through the paper, tracking the traditional stock market rally, watching as the numbers climb. He picks up the cell phone and makes a call to book the house again next summer. He makes another call, this one for dinner reservations, then perhaps some late-night club hopping. (Announcer: "Here's the 2–2 pitch…a high fly ball, deep to right, it's going, going…" *ZVVRRRIP!*)

MONEY WATCH

DAVID RUBINSTEIN

The scene: summer, 2001. A high-tech worker rummages around his sweltering two-bedroom apartment downtown, pulling together a handful of business cards and resumes for that night's Pink-Slip Party, where if he's lucky he can find a recruiter looking for help. No time for baseball, no appetite for dinner. The cell phone has been temporarily disconnected to save some money. "Where's the rally?" he cries. "Where's the rally?"

Watching the market this season, especially the technology sector, has been much like tracking the New York Mets. A team that was expected to contend for the pennant has bounced along the bottom, trying to find something that will kick-start the team. They win a couple, and fans think, "This is it! Here's the move!" Then they drop three or four in a row, dashing hopes of getting back into the race.

In the markets, it seems as though every time there is a two-day or three-day mini-rally, investors are selling off to cut their losses. Large mutual fund managers try to win investors back into the market by claiming these "rallies" mark a new bottom that investors should get in on, but fewer and fewer are buying either the hype or the stocks, keeping their money in other investments.

By many accounts, though, there appears to be good news on the horizon—for the markets, if not for the Mets. Second-quarter economic reports show strength in retail sales and consumer confidence. Companies have revised their guidance, lowering expectations but factoring the effects of the slowed economy into their reports. Further, many analysts believe companies have been beaten enough, that the slowed economy is increasingly reflected in stock prices, and claim that requisite spending by corporations for new technologies will be the spark the sector needs to escape the doldrums and see a run-up. (A key variable is the strength of the European economy, which has appeared to trail our economy on a one- or two-quarter time delay.)

Certainly, predicting what will happen in the market is no easy task. I read one analyst who was quoted as saying the market won't really turn around until investors gain the confidence that they can buy stocks and not lose a lot of money (truly a Master of the Obvious, that guy).

The fact is, confidence will not be won until a clear bottom has been set, which some analysts believe will occur in the third quarter. With improved fourth-quarter IT spending and more realistic earnings expectations, stock watchers expect to see strengthening in the market by late fourth quarter and into early next year.

One such believer is Mark Murphy of First Albany Corp., who cited factors such as easier year-on-year comparisons, the pullback of software stock prices into a more normal range after the overvaluation of the past few years, and the beginning of new technology projects as reasons to look for market growth late this year.

The basis for a bottoming, he believes, lies in the fact that most people looking to sell off software-sector shares already have missed the boat; long-term investors are riding out the lows and are patiently awaiting future growth. Then there is Europe: No matter how many wars we fight to get away from it, our fortunes still are inexorably tied to the land across the pond. With slower spending abroad for the near term, another potential catalyst for driving the market is out of play.

On the bright side, Murphy pointed to the "use-it-or-lose-it" nature of IT budgets, saying the IT managers fear reductions in their spending in 2002 if they don't use what was allotted in 2001, and so he expects IT spending to pick up before year's end.

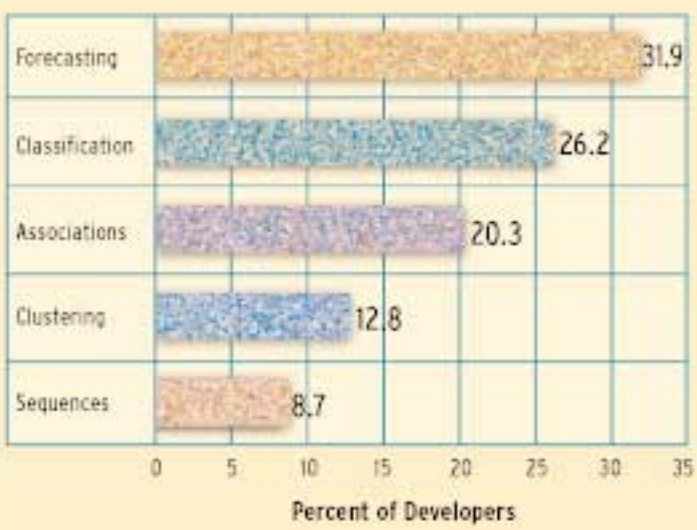
The corrections that Murphy and other analysts describe can be seen in the recent earnings reports of such companies as Rational Software Corp. (reported mid-July pro forma net income was down 40 percent over the prior year) and WebMethods Inc. (reported a loss per share of 10 cents for quarter, and cut staff by 15 percent). But over the next two quarters, these conditions will be reflected in share price and earnings projections, giving investors a more accurate picture of where these companies are and what their futures hold.

Surely, they see a beach house, with drinks and an ocean breeze to blow away the distress of the past year and a half. ▮

David Rubinstein is executive editor of SD Times.

Which Data Mining Implementations Are Developers Most Likely to Be Interested In?

EVANS DATA WATCH



Database developers engage in data mining, or the implementation of data mining solutions, for different purposes. The most common purpose, according to a survey of more than 600 developers, was for forecasting, as well as discovering predictive patterns in data.

Nearly as many developers were interested in the use of data mining for the classification of data through the discovery of patterns. Another area of interest was to use data mining for association, defined as the correlation of one event to another.

Less interesting applications of data mining were clustering, where related facts were grouped together, and sequencing, where the data patterns reveal that one event often leads to another event in the future.

Source: Database Developer Survey, June 2001, Evans Data Corp.
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BUSINESS BRIEFS

Corel Corp., which as recently as eight months ago was looking for a cash infusion merely to remain afloat, will acquire **Micrografx Inc.** of Dallas in an all-stock transaction valued at roughly $32 million, or about $2 per Micrografx share, Corel officials announced. The move is part of Corel's strategic initiative to strengthen its position in the graphics market, the company said. Micrografx has been a leader in the technical illustration market, according to Ottawa-based Corel, which received a $135 million investment from **Microsoft Corp.** last November . . . Embattled **Computer Associates International Inc.** has entered into an alliance with Shenyang, China-based **Neusoft Group Ltd.** under which CA will invest $40 million in the company, which is one of the biggest software production companies in China. Chairman Charles Wang has been courting the Asian market, and the deal gives CA access to companies in China's telecommunications and insurance industries, CA said in a statement. CA is currently engaged in a proxy fight for control of the company as Texas billionaire Sam Wyly, who recently sold **Sterling Software Inc.** to CA, seeks to wrest control of the Islandia, New York-based software giant.

CALENDAR OF EVENTS

Conference.NET — Aug. 13–15
San Francisco
DEVELOPMENTOR INC.
www.develop.com/conferences/dotnet

LinuxWorld Conference & Expo — Aug. 26–30
San Francisco
IDG WORLD EXPO
www.linuxworldexpo.com

Software Test Automation Conference & Expo — Aug. 27–30
Boston
SOFTWARE QUALITY ENGINEERING
www.sqe.com/testautomation

Embedded Systems Conference — Sept. 4–7
Boston
CMP MEDIA LLC.
www.esconline.com/boston

Enterprise Web & Corporate Portal Conference & Expo — Sept. 5–6
Santa Clara, Calif.
INTERMEDIA GROUP INC.
www.intmedgrp.com/eweb

JDJEdge Java Conference & Expo — Sept. 23–26
New York
SYS-CON MEDIA INC.
www.sys-con.com/javaedge

XML One & Webservices One — Sept. 30–Oct. 4
San Jose, Calif.
101 COMMUNICATIONS LLC
www.xmlconference.com/sanjose

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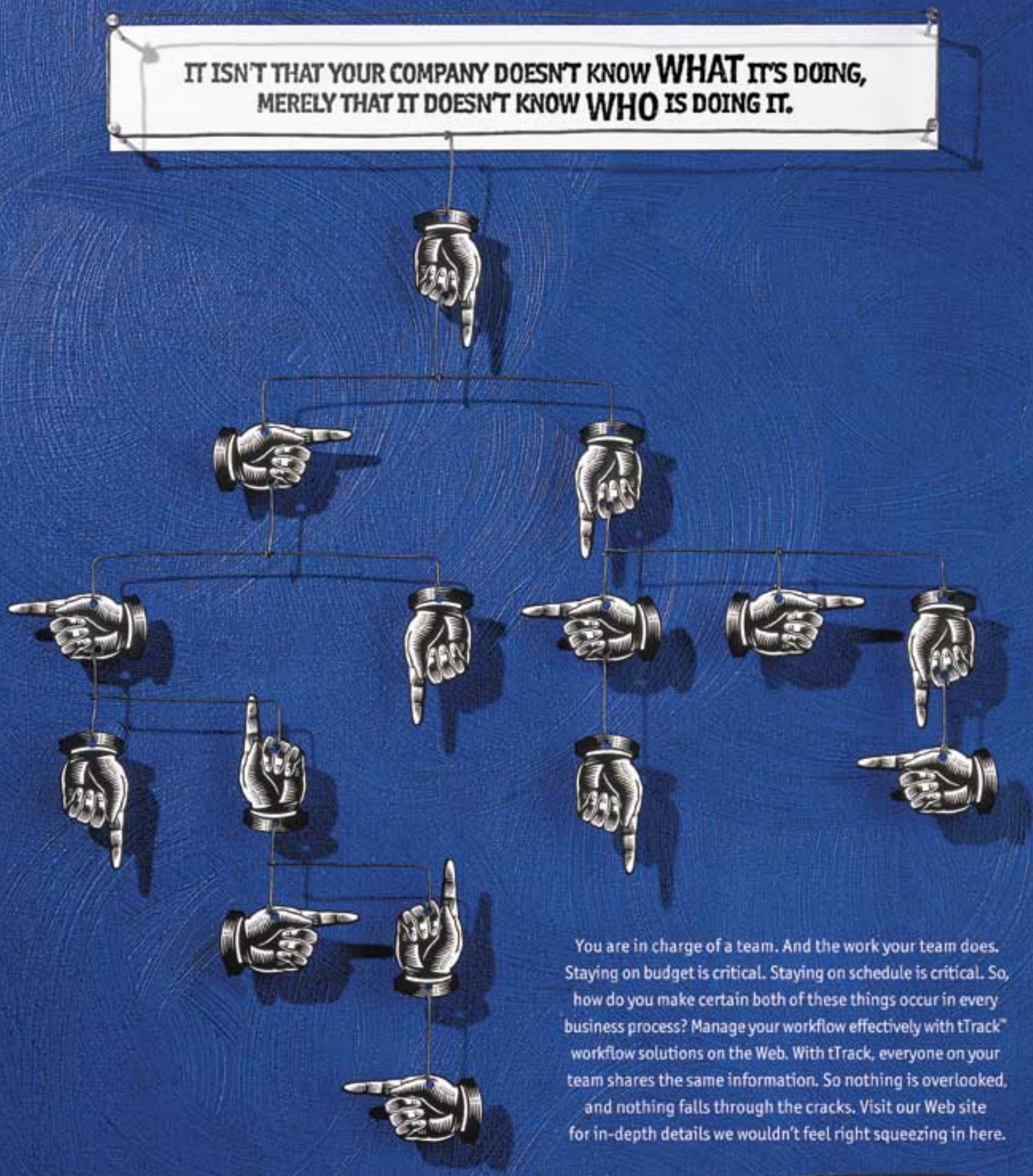
IT ISN'T THAT YOUR COMPANY DOESN'T KNOW **WHAT** IT'S DOING,
MERELY THAT IT DOESN'T KNOW **WHO** IS DOING IT.



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